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BRITAIN'S LEADING MAGAZINE FOR THE AMSTRAD CPC 464 ● 664 ● 6128

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AMSTRAD ACTION

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FOOTBALL SPECIAL!





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GARY LINEKER
EMLYN HUGHES
& STREETGANG SOCCER
– Who will win the AA Cup?

PLUS! Win best seats at Wembley! ● MIDI: what's it all about? ● And hacking - new 'how to' series!


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Your Opponents in your battle for supremacy are four types of Evil Ninja star-throwing Assassins whose skills are manifold and dangerous. Also out to spoil your day are Acrobatic Women Warriors and vicious Guard Dogs. At the end of each level you must overcome the Ninja Master in order to progress – some examples of these superhuman villains are: A fire-breathing Fat Man, an Armour Clad Giant Ninja – who has a disconcerting habit of suddenly multiplying into an army!
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Take on the role of avenging angel as you mete out rough justice to the perpetrators of evil and lawlessness. Some of the most exciting scenes ever to fill a computer screen confront you. The future is here and now when you take up this challenge – PART MAN – PART MACHINE – ALL COP . . . ROBOCOP
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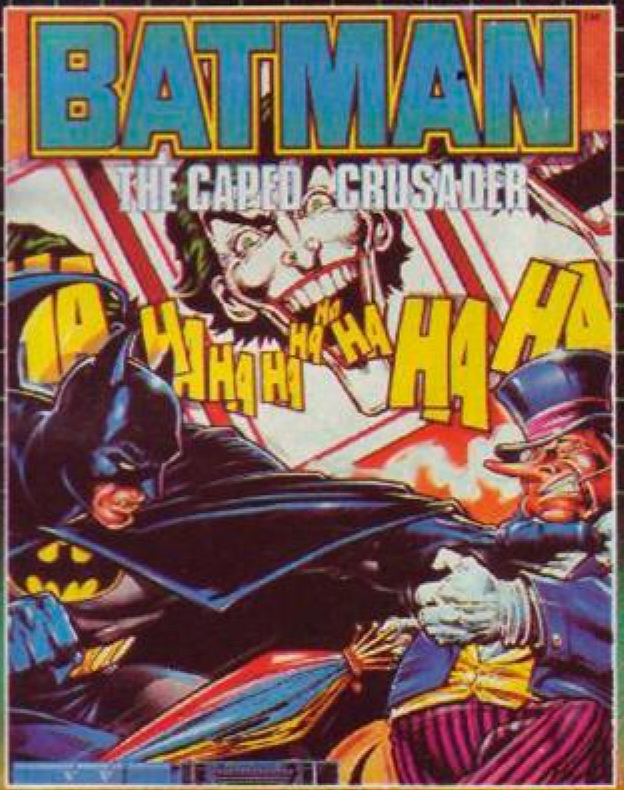
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D.C. Comics' famous super hero Batman breaks onto the micro screen in a Wham! POW! Arcade adventure as you engage the forces of evil in Gotham City. Start in the Batcave and move on through the world of fun and excitement as you face the trickiest customer of all . . . the Penguin. Save some strength for battles ahead with the dastardly Joker however, or you'll miss the thrilling climax! Cartoon style graphics and animation make for stunning realism with innovative game play for long lasting entertainment.

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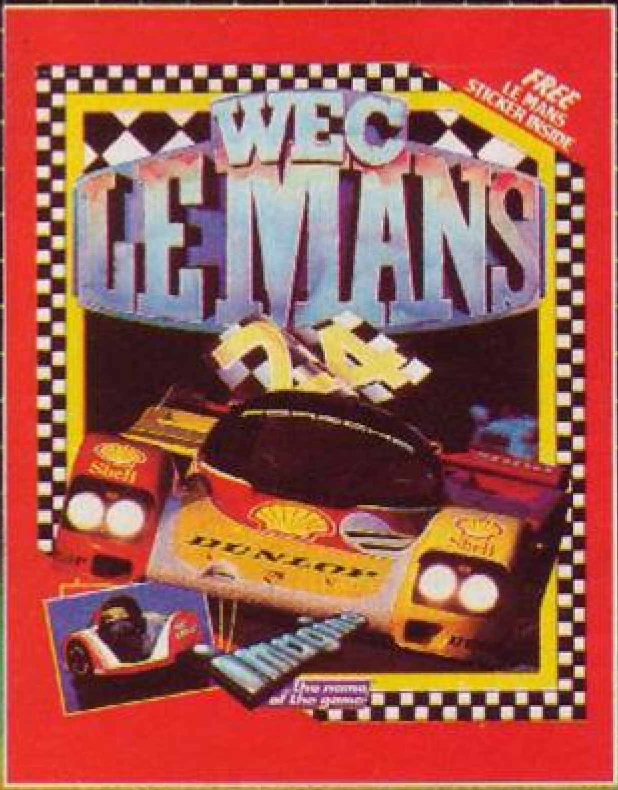
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THE LINE UP

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FRONT END

NEWS●LETTERS

SERIOUS SIDE

SOFTWARE●HARDWARE●PROGRAMMING



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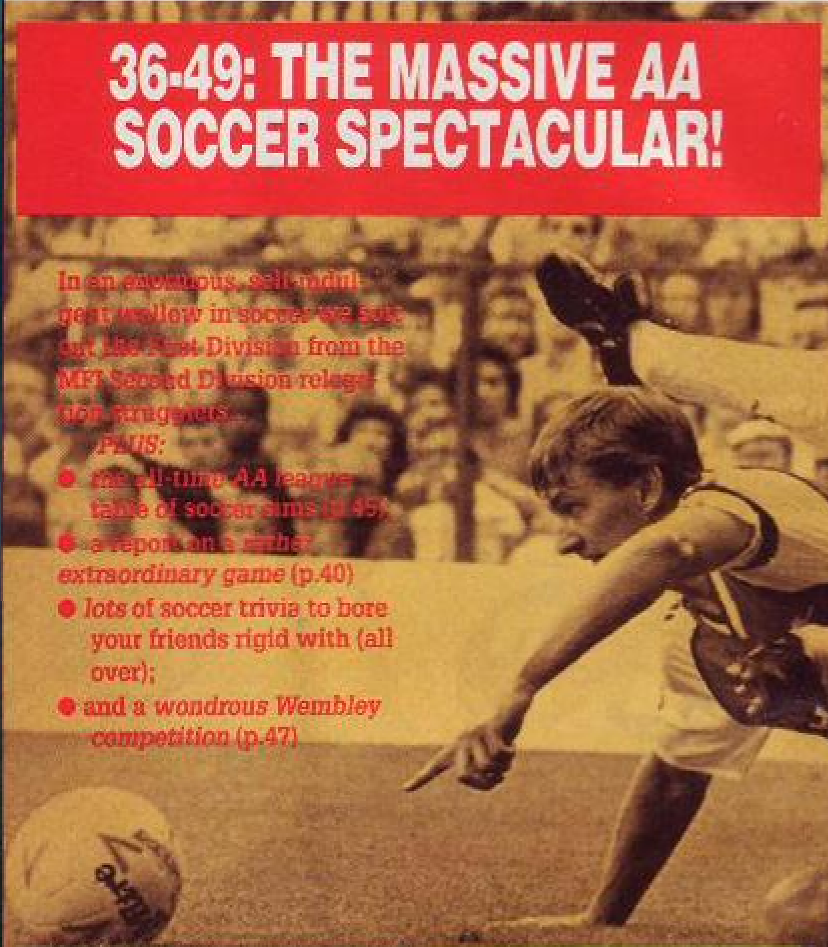
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THE ACTION BEGINS ON 35!

ALL THE TOP CPC GAMES!



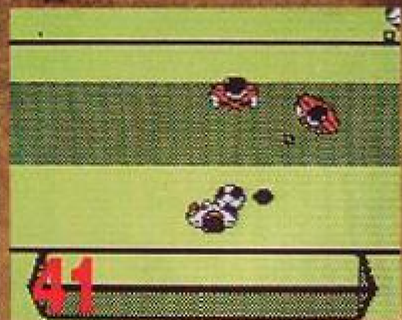
36-49: THE MASSIVE AA SOCCER SPECTACULAR!

In an enormous, self-indulgent wallow in soccer we sort out the First Division from the MFT Second Division relegation strugglers.

PLUS:

- *the all-time AA league table of soccer sims* (p.45);
- *a report on a rather extraordinary game* (p.40)
- *lots* of soccer trivia to bore your friends rigid with (all over);
- and a *wondrous Wembley competition* (p.47)









ACTION TEST begins on page 35!

Even with the massive footie special (see below) we've still found room to bring you reviews of *The Deep* (p.35), *Obliterator* (p.36) and *Run the Gauntlet* (p.50). We may not be pretty, but by jiminy, we know how to show you a good time on *AA*!

Are simulations a waste of money?

Not so long ago I had a thoughtful letter from a reader (not that this is a rare occurrence, I hasten to add!). He'd just read the review of *Chuck Yeager's Advanced Flight Trainer,* though almost any issue of *AA* could have prompted the same response. 'What on earth do people *see* in simulations?' is the general gist, nub or thrust of this letter: 'why bother?'

The point this gentleman makes is that there's actually precious little real simulation in most computer games, even in the best (such as in *Chuck Yeager,* or in some of the soccer sims discussed in the soccer special that begins inside on page 37). 'After all,' he writes, 'if you've ever been up in a plane you'll know what a different experience it is from sitting in front of your CPC and waggling a joystick.' Fair enough, can't argue with that. The same is true of *Emlyn Hughes, Microprose Soccer* and the others.

But what that thoughtful gent is forgetting is the power of the human imagination. Books, films and television are all open to the same superficial logic. There's something about computers that makes people feel very superior. And even if there is any truth in the allegation that playing a football simulation isn't like playing football, it can still be great fun – provided, that is, you choose the right one! And to find out you'll need to read our Football Special...

Steve



48 MICROPROSE SOCCER
Never mind the hype, here's the game!



43 STREETGANG FOOTBALL
Window smashing from Codemasters



47 WE'RE ALL GOING TO WEM-BER-LEY!
Well, the lucky winners in our fabulous Audiogenic competition are, anyway!



NEW! FEATURE

32 INSIDER DEALING
[illegible] to popular demand [illegible] has agreed to [illegible] of his hacking secrets [illegible] new series!

● Due to pressures of space (ie, too much footie), *Helpline, The Look* and *Absolute Beginners* take a rest. Back next issue!

NOW FROM GOLDMARK SYSTEMS THE FIRST EVER UTILITY TO TRANSFER "GO!" LOADERS TO DISC

This type of loader has previously been considered impossible to transfer to disc with an automatic utility but now we have developed a ** FULLY AUTOMATIC PROGRAM ** to transfer the game and loading screen with a massive saving in disc space used, due to compressing not only the screen but also the game code.

Among those tested are:- 720 DEGREES, ATF, HEROES OF THE LANCE (main file & screen), INDIANA JONES (Main file & screen), TRANTOR (main file & screen), JACKAL, SOLOMONS KEY and HERCULES (main file).

** This utility is written to only work in a CPC6128. It will not work in a CPC464 or CPC664 even with memory expansion unless fitted with a 6128 ROM as it uses direct ROM addresses. However, the transferred game will run on your 464/664.

With both Indiana Jones and Trantor we supply details of how to complete the transfer of the remaining game code.

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SPEEDTRANS transfers over 200 programs to Disc, some of the latest it will do are MADBALLS, FREDDY HARDEST (both games) BASKET MASTER, MATCHDAY II, PHANTOM CLUB, GRYZOR (main program) OUT RUN (main prog) SUPER HANG ON, ATV SIMULATOR, R TYPE, REVOLUTION (Including screen) in only 43K and SUPERHERO in only 48K compared with 61K when transferred with another Speedlock utility.

SPEEDTRANS is the only utility that will transfer Mutants 64K. **SPEEDTRANS** is the only utility that will transfer Revolution automatically without meddling.

Added Utility To Dump Any Screen Saved With Speedtrans To Four Different Types of Printers.

SPEEDTRANS will transfer many other titles - some better known ones are:

All Titles From Konami's Coin-Op. Hits From Konami Arcade Collection: Nemesis - Jackal - Jailbreak

Summer Gold By US Gold: Dambusters - Beach Head II - 10th Frame - Bruce Lee - Impossible Mission. From They Sold A Million: Sabrewulf - Beach Head - Jet Set Willy - Daley Thompsons Decathlon. From They Sold A Million 3: Fighter Pilot - Ghostbusters - Daley Thompsons Decathlon

3D Starfighter, Ace Of Aces (Main Program), Acrojet, Advanced Pinball, Alien Highway, Arkanoid, Arkanoid 2, Revenge Of Doh (Main Program), Armageddon Man, Army Moves (1 & 2), ATV Simulator, Brain Clough's Fortunes, Barry McGugans Boxing, Basket Master, Batman, Beach Head, Beach Head II, Black Magic-Both Parts, BMX Simulator, Bounty Boo, Bounty Boo Strikes Back, Brain Ache, Breakthru, Bruce Lee, Catch 23, Crystal Castles, Cluedo, Cobra (Stallone), Combat School, Copout, Cosmic Shock, Daley Thompsons Decathlon, Daley Thompsons Olympic Challenge (Main Program), Daley Thompsons Super Test, Dambusters, Dan Dare 2, Desert Fox, Dizzy, Donkey Kong, Elektra Glide, Express Raider, Eye Spy, F15 Strike Eagle, Fighter Pilot, Football (Codemasters), Frankie Goes Hollywood, Freddy Hardest, Fruit Machine Simulator (Main Program) , Galactic Games (Main Program), Galvan, Game Over (Both Parts), Ghostbusters, Goonies, Grand Prix Simulator, Green Beret, Gryzor (Main Program), Gunfright, Gyroscope, Hacker, Head Over Heels, Highlander, Highway Encounter, Hunchback II, Hypersports (Main Program), I Spy, Impossible Mission, Its A Knockout, Jackal (Compilation Ver), Jailbreak (Compilation Version), Jet Bike Simulator (Main Program), Jet Set Willy, Juggernaut, Killed Until Dead (Main Program), Knight Games (Main Program),Knight Rider, Konami Golf, Kong Strikes Back, Kung Fu Master, Leaderboard, Leaderboard Tournament, Leaderboard Worldclass, Legend Of Kage, Leviathan (Main Program), Madballs, Mag Max, Mario Brothers, Match Point, Matchday, Matchday II, Metrocross, Miami Vice (Ocean), Mikie, Minder, Mindshadow, Mission Jupiter, Monopoly, Nemesis The Warlock, Never Ending Story (Main Program), Nigel Mansells Grand Prix (Main Program), Nomad, Out Of This World (Main Program), Outrun (Main Program), Phantom Club, Ping Pong, Platoon, Pro Ski Simulator, Pulsator, Race Against Time, Raid, Rambo First Blood II, Renegade (Imagine) (Main Program), Rescue On Fractalus, Return To Oz, Revolution, Road Runner (Main Program), Rocco, Sabre Wulf (Later Version), Samantha Fox Poker, Saracen, Scalextric, Scrabble, Shadow Skimmer, Shao-lins Road, Short Circuit, Silent Service, Slain, Slapfight, Space Shuttle, Spy Trek, Street Hawk, Super Cycle (Main Program), Super Hang On, Super Hero, Super Stunt Man, Tenth Frame, Terrormolinos, The Great Escape, The Race Against Time, The Way Exploding Fist, Topgun, Transmuter, Tubaruba, Uchimata, V, Vampire, Vixen, Warlock, Winter Games, World Games (Main Program), World Series Baseball, Xarq, Xevious, Yie Ar Kung Fu, Zoids (Martech), Zorro and many more.

SPEEDTRANS is, without doubt, the best Speedlock transfer utility on the market today and is capable of transferring more Speedlock games to disc than any of its competitors. **TRY IT AND SEE FOR YOURSELF** UK £15.00 -- Europe £16.25 -- Rest Of The World £17.00 Upgrade your Speedtrans Disc - send your disc together with UK £3.00 - Europe £4.25 - Rest Of The World £5.00 Upgrade your Speedtrans Tape send your tape together with UK £12.00 - Europe £13.25 - Rest Of The World £14.00

DMP 2000/2160 PRINTERS

The printer buffer presently in the DMP 2000 series is a 2K RAM. Most of this RAM is used by the printer's operating system leaving an average 1/2K as buffer space. Our upgrade kit contains a new static RAM chip which will increase the printer buffer by 6K (about 4 pages of text). This upgrade allows all Download Characters to be re-defined allowing the user to design special characters for use with scientific and other programs. The kit is supplied with full pictorial instructions to allow the amateur to carry out his own modification (the DMP2160 takes about 7 minutes). If you don't think you are up to it your local TV shop can do the job in approximately 15 minutes

UK £14.50 – EUROPE £15.75 – R. of W. £16.50

COMPACTOR

COMPACTOR will allow you to load a standard 17K screen, set the mode, border and ink colours and then save it as a compressed screen containing its own mode and ink colour information. Most screens compact down to an average of 9K which is an enormous saving on disc space. Loading time of compressed screens is also proportionately reduced.

TAPE:- UK £5.00 – EUROPE £6.25 R. of W. £7.00

DISC:- UK £8.50 – EUROPE £9.75 – R. of W. £10.50

UTILITIES DISC NO. 1

This utility disc contains 5 programs, all menu driven. They are SAMSON, TRANSIT, QCLONE, VIEWTEXT and the fast disc FORMATTER.

DISC:- UK £15.50 – EUROPE £16.75 – R. of W. £17.50

ROM:- UK £17.25 – EUROPE £18.50 – R. of W. £19.25

UTILITIES DISC No. 2

This utility disc contains nine programs. They are Samson, Delilah, Playtrans, Firetrans, Screen Compactor, Address Label Printer, Epson Screen Dump, Schinwa Screen Dump, Citoh Screen Dump.

DISC:- UK £20.00 – EUROPE £21.25 – R. of W. £22.00

ROM:- UK £25.00 – EUROPE £26.25 – R. of W. £27.00

NIRVANA

Have you tried backing up your original expensive disc software and failed? Use NIRVANA before its too late! NIRVANA (meaning enlightenment) is an extremely powerful disc handling utility which has the following features: Disc to disc back up copier which will handle most of the commercially protected discs available today. File copier for individual files. Disc formatter, much easier to use than CPM. Change file attributes. Erase files. Change filenames. Will handle all disc drive combinations.

DISC:- UK £15.00 – EUROPE £16.25 – R. of W. £17.00

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7

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TAPE:- UK £7.99 EUROPE £9.25 – R. of W. £10.00

DISC:- UK £12.00 – EUROPE £13.25 – R. of W. £14.00

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Datel buy out RAM Electronics

Datel have seized an opportunity to elbow their way into the buoyant CPC software market by taking over now-defunct RAM Electronics, including their DK'tronics range.

DK'tronics are best known for a range of peripherals specially designed for the Amstrad.

The move looks certain to inject much needed vitality and commercial aggression, as old familiar hardware items such as the 256K silicon Disk, the 64K and 256K memory expansions, the DK'tronics Graphics Light Pen, Speech Synthesiser and apparently even the TV receiver once again become readily available.



Datel boss Mike Connors is delighted to have acquired an inroad into the CPC world, an area he's keen to expand. 'The CPC range is certainly undergoing something of a revival,' he commented: 'and we're determined to be a part of it. We're now back in full production of all these items, and we want to make something of a name for ourselves as producers of quality.'

Nothing is expected to be dearer, and there may be reductions. 'And who knows,' he added, somewhat cryptically, 'we may even have one or two new products to offer too!'

'We're looking to serve *Amstrad Action's* readers for a long time to come,' Connors promised: 'and we're backing up that commitment with a major advertising campaign, too.'

The sudden and unexpected intervention by Datel is yet another example of a series of adjustments in the CPC marketplace, with new and better suited companies acquiring the manufacturing and marketing rights to existing ranges. This latest example is good news indeed if it means the availability of items such as the 64K memory pack, which has been scarce in recent months.

Datel await requests for further information and orders on ☎ 0782 744707.



● A big hand, please, for the return of the peripherals

Nice box. Shame about... – number two in an occasional series

Last issue we told you about a Mannesmann Tally printer that had been announced but that wasn't of a good enough standard to get released. This month we have for your inspection a modem you can buy, but can't legally *use*.



The spec of Hi-Tec Supplies' EC2400 is impressive enough for a £279 modem: error correction and data compression, four speeds (up to 2400 bps), auto-dial, autobaud and autoparity and all the rest of it. Not bad, if that's what turns you on.

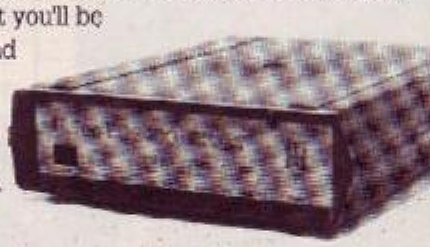
But while it's perfectly above board to buy it, you're prohibited from actually plugging the thing in to your BT line and using it. For the EC2400 doesn't have crucial BABT approval. 'When the approved version is launched later in the year,' Hi-Tec spokesman Martin Payne told us, 'we shall have to charge a higher price.' Why? The current price is the result of a massive cost cutting exercise, which has also meant cutting profit margins.' A BABT-approved modem would be distributed through the trade rather than direct to the public, adding considerably to its price. Anticipate a price not unadjacent to £400, give or take a quid or so.

Payne claims that at its present cost the EC2400 is some £300 cheaper than any other modem with an equivalent specification. 'It's really competing against US and Taiwanese imports, which are not of a high enough standard to achieve BABT approval.'

BABT approval is not retroactive, however. So even if you do take that risk – and at this price many will – and the modem is subsequently approved, you *still* won't be able to use it. Legally.

To be fair this isn't as uncommon as you might expect, and there have in the past even been kits you assemble yourself. And no-one round here can recall anyone actually getting prosecuted for using non-BABT kit. But the legislation exists...

If that thought gives you a *frisson* of excitement rather than the shiver you get when you watch those ads about TV licence dodging detector vans, then no doubt you'll be on the dog and bone (voice) to Hi-Tec Supplies on ☎ 0733 52440.



● The forbidden pleasures of the EC2400

Airborne Ranger comp. winners

Krystyna Gibbons of Bargoed is about to become an Airborne Ranger, for her name was first out of the huge sack of entries to Microprose's *Airborne Ranger* competition. Look out for pics of Krystna flying with a petrified ed next month!

Runners up: Lyndon Bosworth, Franco Difato, M. J. Halfpenny, Ahtisham Khan, Jason Boultbee, Leon Condon, Kerry Muckart, R.P.A. Alozo, Mark Sweetenham and P. Green. Each receives the 'simulator trilogy' *Gunship*, *F15* and *Silent Service*. Hard luck the rest of you!

The postman won't thank you!

There's never been a better time to subscribe to *Amstrad Action*, it says here. If you are not *completely satisfied* you get back the cost of all unmailed copies! Can't say fairer than that, now can we?

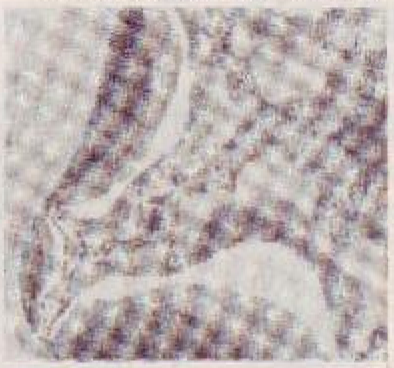
Turn quickly to page 30 before it disappears, and whip out a writing implement or telephoning digit.

Any colour you like...



You will excuse us for mentioning a colour screen dump, *Colourdump*, for the DMP2000 and other Epson compatible dot matrix printers, won't you? It works in either mode 0 or 1, offers used defined shadings and up to four colours.

The reason why we crave your indulgence on this is, of course, that since these are the news pages, which are black and white, we can't actually show you how good the results are.



● Colour, in black and white *(hey?)*

Still, here's what *Colourdump* looks like, um, in black and white... Oh the shame.

Colourdump is expected to cost about £10. For more details ring Richard Moss on ☎ 061 430 3917 and tell him a red-faced *A A* sent you.

● Next month in *Amscene:* a scratch'n'sniff sound-sampler.

● *While we're on the subject of printers (tenuous link number 27), Star have just announced a £30 reduction on the price of their LC-10, now with a retail price of £229. Since only fools and horses pay full price for printers, look to pay around £200 – or even less. (Fre e publicity is on offer to the company with the lowest price.)*



● Star's LC-10: going down, down, down

Ex-teacher in 'cheat' row

Chris Price used to be a teacher. Not content with the low social standing currently endured by that greatly undervalued section of the community, he went further away from social respectability and opted for the life of the professional cheat.

Actually he's not the lowlife that makes him sound. Quite the opposite, in fact.

CPC gamesplayers will hail him as a hero, for Price has set up 1st Choice Software, a company dedicated to offering gamesters immortality.

Two relatively cheap collections of cheats are available, offering immunity in well-known games such as *By Fair Means or Foul, Dragon Ninja, Operation Wolf, Joe Blade II* and *Reflex* (all on Choice Cheat One), and *Bad Dudes V. Dragon Ninja, Arkanoids I & II, ATV Simulator, Empire Strikes Back* and *Head Over Heels* (Choice Cheat Two).

In all, each Choice Cheat Collection holds the key to eternal life in twelve games. Price, who worked as full-time programmer on *Fun School II, Red Arrows, Mini Office* and *Micro Olympics* claims that 'it's more like helping people with their homework than teaching them to cheat.'

Each Choice Cheat Collection costs £2.99 (tape) or £4.99 (disk) from 1st Choice Software ☎ 0706 72728.

● Psst! Wanna buy a Teac 3.5 inch, 80 track double sided, 1MB unformatted disk drive? It formats to 800K, is one inch high, comes supplied cased with all necessary cables and power supply and is ready to plug in & use. It just needs Rodos or Romdos/Ramdos. It's yours for £89.95 – a whole tenner cheaper than the nearest competitor. Give Microstyle a buzz on ☎ 0274 636652.

● You'll like this. Not a lot, admitted... Sources close to the editor of *AA* – ie his mum – tells him that 'one of those Seepie Seas you're always going on about' was a prize on that awful little man Paul Daniel's *Every Second Counts*. How are the mighty fallen...

● The Solent Amstrad Club meets at the Trojans Club (so why not give it a Troy, ha ha) in Eastleigh. For an altogether better class of joke ring newletter editor David Gosling on ☎ 0703 462436.

Is Oxfam going soft?

Britain's leading overseas aid and development charity, Oxfam, is launching an important appeal – and your help is required.

Oxfam is after your old, unwanted computer software. So dig out that old copy of *Psycho Pigs UXB* your auntie so kindly bought you, get together all those other classics that are gathering dust in a cardboard box under your bed and get down to your local Oxfam.

'By donating your unwanted CPC software,' Richard English, Oxfam's Appeals Manager says, 'you can help raise money to aid people suffering from hunger, disease and poverty around the world.'

You can contact Richard English on ☎ 01 585 0220. Do it now!

Executive in charity appeal

Are you a Home Executive? Are any of your friends or relatives Home Executives? Many people are unaware that this sad condition is treatable, if only it is discovered early enough. Send what you can, however little (well, it *i s* for charity), to Home Executives Anonymous...

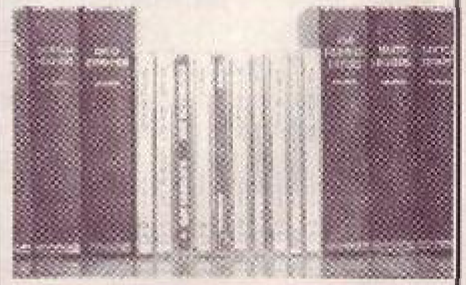
– *Hang on a minute.* Look, I asked for a perfectly serious story about SD Microsystems' new package, the *Home Executive*. You know, the one that's really a compilation of household or personal management modules linked by a master menu system. Yes, that *Home Executive*, which prints information on outrageously expensive organiser stationery as well as standard A4 and computer listing sheets.

And I suppose *(dramatic patient sigh)* I'd better mention that SD Microsystems are on ☎ 0462 675106 while I'm at it.

Honestly, you want a job doing round here you do it yourself. sometimes I wonder, etc etc.

What the Dickens...?

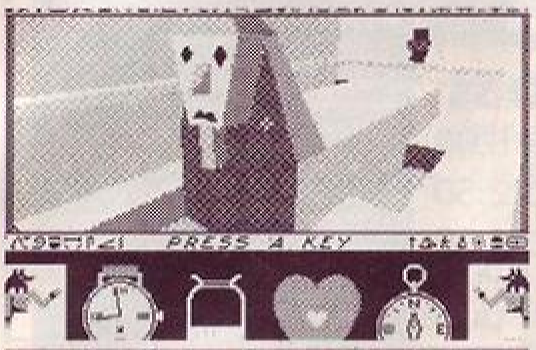
Electronic Arts have launched a new Classic Collection, a bunch of fairly recent games going cheap, and truly deserving 'the much-abused title 'Classic.' Three greats are immediately available at a spiffing £6.99 (disk)/£2.99 (cassette): *The Bards Tale* (*AA36* 90%), *Arctic Fox* (*AA35* 81%), and *The Archon Collection* (*AA42* 71%).



● With every game: free Charles Dickens! (Whaddya mean, you didn't even know he was banged up?)

Isn't that just absolutely Freescape typical!

Oh blow flip dash. No sooner do those very, very nice *AA* peeps print an absolutely complete and utterly utterly wonderful solution to *Total Eclipse* (see *Cheat Mode,* p.59) than what happens? Those Incentive Software bods bring out a sequel. *Total Eclipse II -The Sphinx Jinx* finds you once again wandering around a pyramid, with a only a very limited amount of time to collect treasure, Ankhs and water.

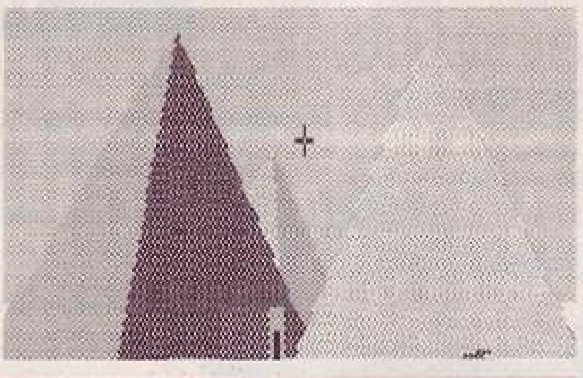


● It's that Sphynx again – *Total Eclipse II.* Out now!

Your mission, Jim, should you decide to accept it, is to find the 12 parts of the mighty Sphinx hidden in a network of tunnels and caverns. You have only an hour to find the various parts of the Sphinx before they disappear for all time. Judging by one frantic weekend spent extensively playtesting *Sphinx Jinx* in a pathetic attempt to avoid helping with the housework and washing up, it looks very much as if Freescape's tougher than ever.

The drawback, however, is that the game is *only* being released on the same disk as the original *Total Eclipse,* and *only* through the Home Computer Club. For those who haven't yet got around to parting with their cash for *Total Eclipse* £11.20 for the two is one of the bargains of the year. But can it really be worth buying both if you already have the original? If you can hang on for just a few short weeks you can read the full *AA* review..

P.S. This news item will self-destruct in five seconds.



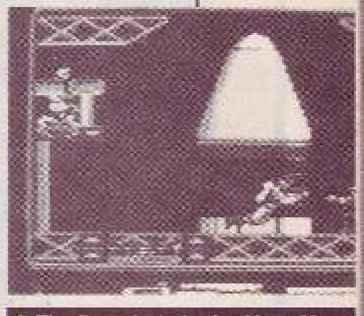
● As the sun beats down, the quest begins...

Hello sailor!

Glittering sequels are in this summer, darlings, and another contender for the double is *Navy Moves,* long- but not especially eagerly-awaited follow up to *Army Moves (AA22 58%).* Once again you're on a suicide mission, but this time it's set in a sub that has to be captured. This all involves a lot of running around and shooting people dead, kidnapping officers and looting corpses for ammo. *Navy Moves* looks good clean military fun with machine guns, flame throwers and a rubber suit. *(Army Moves* was banned in Germany, incidentally, where they take a very strict line on such militaristic macho games.)

Navy Moves comes from Dinamic, the makers of *Game Over I & II (AA25 72% & 38 69%).* Dinamic are a very pleasant crowd of Spanish people, where the CPC is enormously important and where, therefore, they ought to know what they're doing. We've seen *Navy Moves,* brought over from Spain especially for you, and it does indeed look pretty hot. Steve wanted me to mention that he saw it last year in Madrid when he visited Dinamic HQ, but I'm not going to, so there.

More naval exploration next issue when you get the indispenc-, indespens-, er *don't miss the review next month...*



● The first shots in the *Navy Moves*



Price rise

Remember *AA21* back in June 1987? Inside Richard Monteiro was reviewing *Advanced Art Studio* and *Maxam II,* while *Action Test* was giving the low-down on *Leaderboard, Ranarama* and *Grand Prix Simulator.*

There was something else of note about that issue of *AA* all of two years ago. It was the last time we had a price rise. (Bet you can guess what's coming next.)

From next issue your *AA* will cost you a measly 20p more. We don't like doing it, but what with the increase in production and printing costs over the last 24 or so issues we have no choice.

If I were you I'd get my subscription in at the old price (see p.30) before they realise they haven't put the cost up yet...



● Remember *AA* when it looked like this? So very long ago...

Think once, think twice, think *tank*

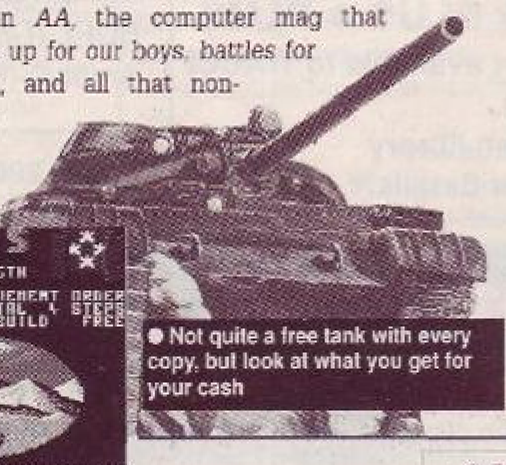
Look out, there's a *Tank Attack* about. It's grinding its way towards you courtesy of CDS, which just gives me half a chance – which is all I need – to make a very poor joke along the lines of where *Brian Clough's Football Fortunes* led, only an armoured division dares follow. No? Oh well, don't say I'm not trying *(you are, Webb, you certainly are – ed.). TA* is an interactive computer/ board game, based around four countries at war. Surprise, surprise, your aim is not to make peace for our time. No sirree, your sole aim in life (and death of course, don't forget death) is to grind your opponents into the dirt under the tracks of your war wagon.



The war scene is complicated by the alliances between certain countries who fight together (and remember, the countries that fight together, fight together), sharing supplies, strategy and gossip. The ongoing action is reported in the daily newspaper *War News,* but just in case you hadn't guessed, the trouble with the tabloid press is they sometimes lie (just a teeny weeny bit) to keep morale up. So when you read that 'British Push Bottles Up Germans' you have to interpret it in the light of your extensive military knowledge.

The battles are fought as artillery duels and tank shoot-outs, seen through the binoculars of the general staff. Can board games and computers work as a base for good gameplay? Don't make tracks until you've read the full report here in *AA,* the computer mag that stands up for our boys, battles for Britain, and all that nonsense.





● Not quite a free tank with every copy, but look at what you get for your cash



REACTION

More pages of pithy prose from the wry pens of our perceptive readers

Dear readers,
It's time for another assault on your correspondence, as the ed rips open your latest missives on matters CPC.

Remember too there's a £15 SOFTWARE VOUCHER for one lucky winner every month! So get scribbling – or printing – to: *Reaction, AA,* 4 Queen St, Bath BA1 1EJ.

But no SAEs, please: we really and truly are too busy to reply personally to correspondence.

Steve
AA

PS Address all mail order and subscription enquiries to: *Special Offers, Amstrad Action,* The Old Barn, Somerton, Somerset TA11 7PY. We can only pass on your letters, changes of address and so on, to them.

●Vroom at the top

I was interested to read the review on *WEC Le Mans* and am amused at the 'Staying Power' rating. Having bought the game from my local stockist, I got home, plugged in the joystick and loaded up the game. By my third 'go' I had completed it. The congratulation at the end reads:

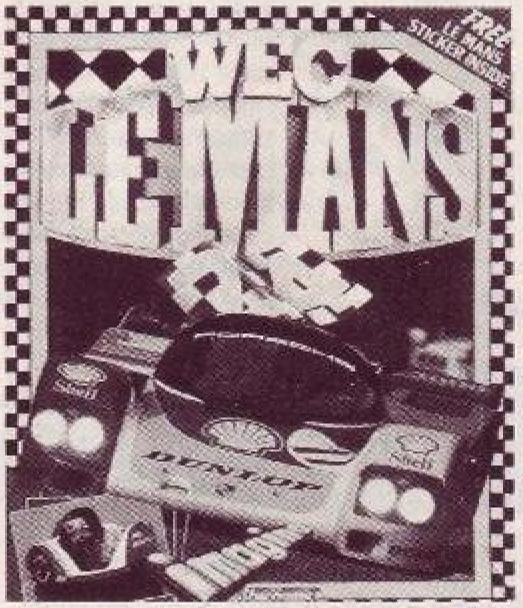
'Well done driver! You have shown your courage skill and endurance by winning the *WEC Le Mans 24 hour* race.'

I would therefore alter the staying power rating to 10%.

Onto my second point. I, and I think many of the other readers of the magazine, would like to congratulate Amstrad on the reliability of their computer. I have had my 464 for about three and a half years and never has it caused me any troubles. My friend, before upgrading to an Amiga, had had his Commodore 64 replaced four times.

Simon Poynter
Leeds

AA: Oh dear. Simon, if I tell you you're an exceptionally gifted games player with superb reflexes, the dexterity of a cat and the intelligence of the combined membership of Mensa, would you go away and stop bothering us?



● WEC Le Mans: 'lacks staying power,' says Simon

As for the serious side of your letter, I agree entirely. The CPCs have proved themselves to be remarkably robust machines, for which Amstrad deserve credit. (Except they don't take credit, only cash.) Indeed a recent survey indicated that dealers find them the most reliable of all home computers – which is just as well, given the raw deal retailers get at the rough hands of Amstrad.

●*AMS:* loyal supporter

Mere words cannot express the sorrow and distress I feel at Rainbird's decision to drop *Advanced Music System*. In my opinion, this program was the most wonderful bit of coding ever to appear for the CPC and for nearly three years it has kept me glued to my computer night after night! No other program (with the possible exception of Novagen's *Mercenary)* has had this effect on me!



● And so farewell, AMS?

So RIP dear *AMS!* However, I believe in a life hereafter so I hope that some enterprising company will manage to secure the rights to *AMS* – as I believe may well be the case – one lives in hope!

In the meantime, there are no doubt a good many people who own *AMS* already and are wondering what all the fuss is about. It is to these people that I now address my letter.

I have prepared no less than four demo disks of extremely high quality music (mainly classical), with possibly a fifth on the way. With your CPC connected to a stereo system (very easy to do) the output is truly astonishing. If you own a copy of *AMS* and are interested in my music disks, please send me an SAE for further details. I'm also more than willing to give advice on any aspect of using *AMS*.

My demo disks prove that *AMS* is a highly flexible tool for music making. I've done things on them that the *AMS* manual doesn't mention, such as the dreaded Triplets, and other little niceties like rubato and both Accelerandos and Ralentandso! Having used other music programs on other computers (the Amiga for instance), none of them come even remotely close to offering the same degree of musical freedom which the CPC version of *AMS* is able to give.

Come on CPC music lovers, keep *AMS* alive. Our computer can be a brilliant musician so give *AMS* your best support. If you want *AMS* to continue, scream for it! If you've already got *AMS* and want to hear it sing, write to me and I'll tell you about my music demo disks. You'll be amazed at what you hear.

Rob Baxter,
50 Milton Grove,
Whalley Range,
Manchester M16 0BP

AA: Rob appears to have rather a bee in his bonnet about AMS. It is indeed a great piece of programming – even Pat claims to have created a couple of good tunes on it!

The situation about its availability is that parent company Telecomsoft have sold the Bird family to Microprose – subject to contract, that is. It will evidently be some time before the Tetbury mob decide exactly what is going to happen to all the different products. We can only hope that they see sense and make it available again. Or, alternatively, they could do what was done with the Advanced Art Studio *and the AMX range and sell the license on to a company more interested in supporting CPC programs.*

●Looking for trouble

Why on earth was Nigel Lawson (with straightened hair) on the cover of *AA40*?

James Bryn (age 12)]
Cuckfield, West Sussex]

AA: *You looking for trouble, Bryn? Because you're going just the right way about finding it. That 'Nigel Lawson (with straightened hair)' as you so unfairly describe it, was none other than Steve Carey (age 93, according to the picture). Artist Graham Puckett has been sent to Coventry.*

Your really BIG mistake, mate, was putting your full address on your letter...



● Revealed! Carey *is* Lawson!

●Serious diskussion

I think your readership is entitled to a sensible explanation (if one exists) for your strange editorial policy pertaining to the spelling of the name for *round flat things*.

What prompts me to ask this is a note in a software review in your April edition where you actually draw attention to the fact that you are at variance with other users of *round flat things* in the matter of the correct spelling of this important little word. As you indicate that you do not want any serious letters on the subject, I think perhaps a silly one would be appropriate, but I despair of thinking of anything so silly as your persistence in naming *round flat things* in a way which is different from that used by the very computers to which your magazine is devoted.

I know the OED admits the existence of two spellings, and even declares the other one the 'usual', whatever that means, but surely the one relevant to us is the one used by Amstrad CPC machines, most of the software for them, and most of the literature about them?

Many programs which are sold in *round flat form* are called into action by means of a loader file which goes by the name of one of these *round flat things*, and in every case that I have encountered the spelling is the one used by Amstrad themselves. I wonder how many *round flat things* have been returned to suppliers as 'faulty' because the purchasers, influenced by your good but misguided self, had typed the wrong word into their machines?

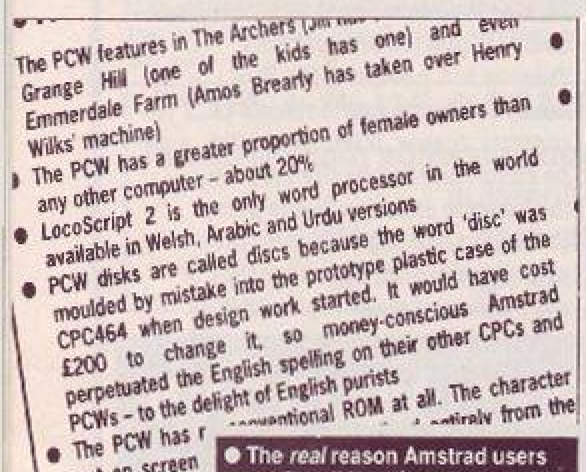
Why? No silly answers please.

R J F Stewart, Hightown, Merseyside

AA: *I'm sorry I had to cut your letter down to approximately one fortieth of its original length, but I think I've preserved some of its original spirit.*

I offer no explanation, apart from reprinting a snippet from a fairly recent issue of New Computer Express *– 48p every Thursday from all good newsagents, don't miss out. (It is quite clear, incidentally, that Rob Ainsley, editor of NCE and author of this snippet, is unaware that the original English spelling of* round flat things *is with a 'k' and not a 'c'.)*

Besides, I'm the editor.



The PCW features in The Archers (Jim ... and even Grange Hill (one of the kids has one) and Emmerdale Farm (Amos Brearly has taken over Henry Wilks' machine)

- The PCW has a greater proportion of female owners than any other computer – about 20%
- LocoScript 2 is the only word processor in the world available in Welsh, Arabic and Urdu versions
- PCW disks are called discs because the word 'disc' was moulded by mistake into the prototype plastic case of the CPC464 when design work started. It would have cost £200 to change it, so money-conscious Amstrad perpetuated the English spelling on their other CPCs and PCWs – to the delight of English purists
- The PCW has r... ...nventional ROM at all. The character set on screen ... ...ntirely from the software. The

● The *real* reason Amstrad users wrongly call it a ***c and not a ***k

●More on ROM

No doubt you have had a lot of letters like mine, regarding commercially manufactured ROM boards, following your article in April '89 AA.

What about T & M Services, Dublin (0001-947552). For just £12.50 + £1.00 p&p, you get a well made, sturdy ROM board, with flat ribbon connection, ready to plug-in and go. Well worth buying if only to run *Protext* on (like me!).



On the negative side, there are only four ROM sockets and no through connector. However, it is cheap and reliable.

If you want your programs transferred from tape or disk onto ROM, I found that D J Software, Stevenage (0438 354908) offer a fast and efficient service for an all-in price of £9.95 + 60p p&p per ROM.

David J A Noakes, Chatham, Kent



● Always something there to ROMind me (ouch)

AA: *Thanks to David and all those other readers who pointed out these two extra services. Phil Craven, the 'ROM Ranger' himself – who has another excellent hardware project in these pages next month – very nearly succeeded in making his round-up absolutely complete.*

●Absolute con/viction

Your readers, particularly any intending purchasers of an Amstrad, will be interested to learn of my recent experiences with that company.

Enticed by their '17 free games' promise in the sales literature, I bought a 464 from a major high street retailer. Finding my purchase to be missing the promised software, I promptly complained to Amstrad. Their response was swift and curt. 'Tough luck, that retailer doesn't give the free software', would be a fair summary of their reply.

I turned to my local Trading Standards Officer. His view was that Amstrad were almost certainly taking advantage of a weak law to promote their product. Apparently, if you say something is free – 17 free games – you are under no actual legal obligation to supply it! However, as Amstrad knew that some retailers would not be supplying this software, he questioned their motives in promising it in their literature. 'Misleading', said the man from the TSO. I'd call it a con.

I could hardly presume that the official Amstrad magazine would publish this letter but trust that you, in your independence, will see fit to do so as a warning to others. Let the buyer beware – clearly the manufacturer cannot be trusted.

I M Firth
Solihull, West Midlands

AA: *The 'major high street retailer' wouldn't be Dixons, by any chance, would it? The reason I ask is that Dixons recently had their knuckles rapped by the Advertising Standards Authority for committing just this kind of sin.*

Amstrad should know better, of course. But given that they are very prone to the 'Stuff you, buster, we've got your cash so just bog off and leave us in peace to spend it' school of customer relations I don't see there's much hope of the Brentwood Beastly Boys repenting.

I find it amazing that just because something is offered as 'free' the advertiser making the offer is under no legal obligation to honour the commitment.

Let this be a warning to all our readers and anyone contemplating buying hardware, or indeed software: don't part with cash unless you're sure you have what you want.

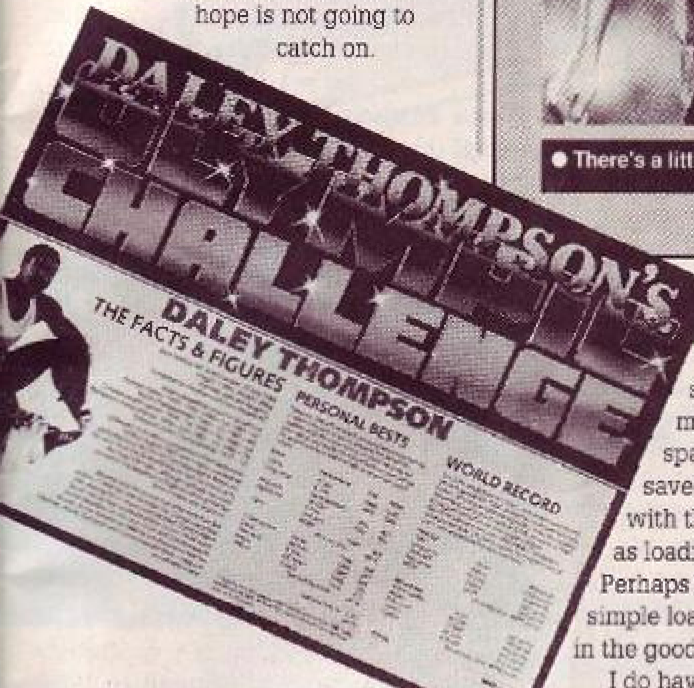
Have you considered standing outside the store on a Saturday and telling all their potential customers how they treat people?

The big squeeze

I have a complaint. Tape based software that loads in parts is annoying me. Take, for example, two games I recently purchased – *Combat School* and *Daley Thompson's Olympic Challenge* (both Ocean).

To play ONE game of either requires the loading in of part after part. Should you fail early on in your quest to become Army Man Of The Year or Olympic Gold Medallist, it's back to the start and another mammoth loading session for ONE more go.

It's a trait I distinctly hope is not going to catch on.



● Scott would like a Daley help (geddit) *(you're fired – ed>)*

If the game is too complex to fit into the considerable Amstrad memory, surely space could be saved by dispensing with the niecties such as loading pictures. Perhaps this would allow simple load and play - like in the good old days.

I do have a disk drive on my 6128, it's not a cripple, but I refuse to pay the price asked for disk based software.

Therefore, I buy tape based software and transfer it with Multiface II. But I can't if the programme loads in parts.

Why do software publishers make it awkward and expensive for us?

A simple package would also suffice. A tape in a cassette box is what I want to buy. Apart from anything else, these huge boxes are untidy.

Posters, sound tracks, story books. Whatever next?

Scott McBride, Crieff
Perthshire

AA: You have a point, Scott. But software companies would say they have enough trouble as it is squeezing big games into the CPC's not wildly over-generous 42K of free memory. An ST, for instance, has 360K available!

As for those 'extras' you refer to, I don't suppose that a fancy box and a poster puts a great deal on the price. And I would be willing to bet that if they were scrapped you wouldn't get cheaper games: you'd just get less for your money.

Anyone else have an opinion on this subject?



● There's a little bit about football later in this issue...

A goal to aim for

My game of the year would be *Matchday II*. Brilliant arcade football with delightful graphics and gameplay.

Tell you what though, a cross between *Matchday II* and *Football Manager II* would be an instant and enormous hit. You could pick your team and then play against a second team, controlled by the computer, where the quality of your team would decide the difficulty level.

David Hayes
Glasgow, Scotland

AA: You're not psychic by any chance, David? If you are you won't need to be told to turn to our soccer mega-special beginning on page 37. There you will find, among other things, a review of* Emlyn Hughes International Soccer*, which would appear to be exactly what you're asking for – and more!

But why take my word for it? Turn to p.37 this instant and see for yourself!

Sugarman



Broadley speaking

She's
- **A PLAIN-SPOKEN woman**
- **who SPEAKS as she finds;**
- **DOESN'T take any nonsense**
- **WON'T suffer fools gladly and**
- **CALLS a spade a spade.**

She's EMMA BROADLEY, the world's top computer columnist.

(Right Broadley, that's the last time you write your own intro – ed.)



"Sex and violence. Now there's a combination. Sex *and* violence. Isn't it funny how the two are always linked, as if you can't have one without the other?

The subject has been on my mind recently because of various debates going on in the computer press – you may recall letters from that legendary gentleman Wm. ACC Smith of Windsor on the subject only a couple of issues ago in *AA*. As has happened in the TV world the two subjects have become synonymous with all that is bad for us.

Well, I'm still a warm, sensitive human being, even after watching *Taxi Driver* and *Apocalypse Now*. Give me Mel Gibson taking his clothes off on TV any day of the week and I don't turn into a raving loony! I really can't see what playing *Strip Poker with Sam Fox* has to do with the nation's supposedly falling moral standards. Any child can see things more realistic and blatant in the local newsagents.

Ban these sick Whitehouses!

Don't get me wrong, I'm not *defending* it. I'm merely pointing out the futility of banning supposedly racy computer games. Geoffrey Dickens and Mary Whitehouse are constantly telling us how we must protect our children from the filth and debauchery that surrounds them in the media. But what's needed, surely, is a more rational approach to the whole issue.

> **"When so many people are exposed to the *Sport* every week, what harm can computer games featuring quarter inch sprites do?"**

This is not what we get when Mrs W. and half a dozen pathetic attention seeking Tory MPs – who probably can't even remember what sex is – are ready at the drop of a pair of knicks to start moaning on and on and on about how disgusting it is and ban this filth *now*. How *dare* these patronising pompous pontificating fools try to tell us what's good for us?

Sex in computer games is really my thing, but in the interests of research and the common good of mankind I went in search of one. And guess what? For the good old CPC there really is nothing shocking at all!

Nothing in any of the games I tried compare with what's readily available on the top shelf – and this is from a girl who's only ever seen the *covers* of these magazines! My own opinion is that any adolescent male daft enough to shell out £10 or £15 on a strip poker game deserves what he gets: a bad case of sexual frustration and the uncomfortable suspicion he's been taken for a ride. Which he has.

The first victim is insomnia

Now violence is a different matter There are literally hundreds of games which promise the 'reality of war' and 'frenzied attacks' as well as offering to make the player a hero. Take for example (oh do, please take) *Platoon* (reviewed in *AA32*), *Operation Wolf (AA40)*, and *Bad Dudes Vs. Dragon Ninja (AA42)*.

After hours wasted on this nonsense I decided that the real heroes are those who actually manage to get through them without falling asleep. I can't imagine how a computer game about Vietnam can turn someone into Rambo.

What's infinitely more disturbing are the stupid ads that appear from time to time – such as that appalling *Psycho Pigs* effort (what on



earth were US Gold thinking of?) which only serve to feed prejudiced minds with ammunition for their mindless 'Ban These Sick Games!' campaigns. If software companies were only a little more discerning about how they advertise games and not use titillating pictures of scantily dressed large breasted women we might get somewhere. But of course we all know why they do it.

Censorship won't work

But I repeat, banning is no solution, and in fact would only serve to make the whole thing much more attractive. One of the reasons I was thick enough to take up smoking when I was a girl was because I was repeatedly told not to. No, there's no point in banning sex or violence from CPC games. Indeed I don't think it's even desirable, since both activities have their (separate) places. Sex is good, and fun; and when violence is properly controlled – such as in football, rugby, perhaps boxing and certainly jumble sales – it too can be good. I agree that sex should not be linked in games with violence, and there are limits to what should be freely available. But honestly, when so many people are exposed to the *Sport* every week, what harm can computer games featuring quarter inch sprites do? ●"

Has Emma got it right? Or should there be limits to what young people are allowed to see? Let us know what you think. Write to: *Emma's Page, AA*, 4 Queen St, Bath BA1 1EJ

Talkback

Thanks to all the people who took the time to write in response to my first column last month. First to welcome me aboard the good ship *AA* was Londoner CHAS WATTS who wrote: 'May I welcome you to the pages of *AA*, even if it is only one page! A lady's point of view should be interesting and stimulating in what has hitherto been a male dominated activity. Move over Pat Mc, Emma has arrived!' As the owner of a 464 that's heading towards its fifth birthday he agrees with me about the CPC's versatility and durability.

PETER DATTON faxed his letter in from Scunthorpe. He suggests that the computer buyer has had an unfair deal, since you may have to wait a month or six weeks while you wait to have your computer repaired. He points out, too, that the reason why Comet sell at a discount is because they buy in bulk and so get a better deal. 'I prefer to buy goods from a smaller dealer,' Peter adds, 'because of the better service I get for the few pounds extra. Having repairs done locally is part of that better service.' I quite agree, Peter, but unfortunately not everyone has your sense!

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FEATURE

The sounds of MIDI



Yes of course you've heard of MIDI: it's a way of communicating data between different musical instruments. Perhaps you even know all about sequencers, patchbays, MIDI delay and system exclusives. But you still haven't invested your hard-earned cash, have you? STEVE COOKE is about to change your life...

The range of MIDI possibilities, both in application and equipment, is enormous. The only common denominator is music, and by that we don't mean S'Express, mindless mechanical drum routines, squeaks and pops from a towering bank of synthesisers. We mean fun, education, and self-expression.

By making your Amstrad the centrepiece of a simple MIDI set-up, you can exploit the power of instruments that are not only affordable but also vastly more powerful than you might imagine if you're not already familiar with them.

For there really has been a tremendous advance in sound technology in the last two years. Modern electronic instruments actually

Sound Modules

Big sounds from little boxes



● Kawai K1M – not cheap, but right for you if you have a 'sense of adventure'!

Roland MT32
Price: £450.00
☎ 01 568 4578

When Roland introduced the D50 synth a couple of years back its use of natural waveforms as a basis for synthesis gave us some tremendous sounds (helped by built-in digital reverb) and made Roland the market leaders... for a while.

The D50 is still a very desirable item, but it costs around £1,200 and Roland have done us very nicely with the MT32 – which uses the same synthesis method as the D50, includes digital reverb, and offers a great bonus: up to 32 note polyphony and 8 note multi-timbrality.

This is a unit that positively cries out for a sequencer to enable you to produce stunning arrangements and compositions in stereo (albeit with a little hiss, if you can't get exactly the right match between your amp and the unit...).

The MT32 comes with 128 preset 'timbres' (voices), most of which are excellent, though not as adventurous as some of the Kawai presets. However, the digital reverb gives the MT32 an edge that's hard to ignore.

Furthermore, the MIDI implementation is comprehensive, with the eight parts responding to eight different channels and the different sound groups giving a very wide choice of instrumental effect (three pipe organ voices, for example, one of which is excellent).

The MT32 has an odd habit of booting up responding to channels 2-10 and ignoring channel 1, which tends to be the default on most keyboard controllers. Minor problems like this are not helped by very poor documentation, making the unit frustrating for someone completely MIDI-naive.

On the other hand, the purity of the sounds and the powerful control options should make this unit almost irresistible, and goes very well with the MK5VA and MK7VA keyboards. If you want a wide selection of sounds and excellent multi-timbrality, go for this one without hesitation.

Cheetah MS6
Price: £299.95
☎ 0222 55525

Probably the cheapest sound module around, Cheetah's MS6 comes complete with an amazing 400 pre-sets! Too good to be true...?

It all depends on how you like your digital synthesis, but up in the musical stratosphere, professional musicians (well digital techies anyway) have been crying out for a return to the rich Moog-like roar of the traditional analogue synthesiser. You know – the things with lots of knobs that make the floor shake when the volume's turned right down and start earthquakes when you turn it up...

We computer buffs, however, are likely to feel more at home with digital synthesis and that's a point against the MS6. Furthermore, the 400 pre-sets, to an untrained ear, include a large number that sound almost identical. The situation isn't helped by having an LED display that identifies the current preset by number only and not by name – a bit daunting when there are 400 of them!

That said, the MS6 is very easy to use, is well documented, produces some hefty wadges of sound, and is very cheap. Other bonuses include 64 preformance memories, good MIDI implementation that includes powerful multi-timbrality and makes sound-layering very easy, and – we'll say it again – some of the fattest sounds around.

Kawai K1M
Price: £395.00
☎ 0202 296629

A sound module version of the K1, the K1M is identical in technical specification. The obvious comparison must be with the MT32, and the K1 comes out very well, though I personally prefer the MIDI implementation on the MT32 and would miss its built-in reverb. On the plus side, however, it does have those exciting K1 pre-sets and is very easy to program... Recommended for the person with a master keyboard and a sense of adventure, but perhaps not quite so suitable for the dedicated conventional musician.

Everything you need to make music...

Two self-contained keyboards



● The Casio MT540: a good cheap introduction to MIDI

Casio MT-540
Price: £179.95
☎ 01 450 9131

This 4-octave mini-keyboard is typical of the new range of cheap MIDI instruments that offers sound quality way beyond what you'd expect at the price. It's also 4-voice multi-timbral under MIDI, which means that you can play four different instruments simultaneously.

The MT-540, like most modern portable home keyboards, has an excellent rhythm section, and hence you can use the multi-timbral facility to make your instrument double as a drum machine.

Since the PCM sounds are of excellent quality, this makes the unit almost worth its price tag on that score alone.

The MT-540 comes with around 30 pre-set tones (or voices) and boasts a particularly good piano sound for the price, along with accordion, harpsichord, bells, chorus and other familiar offerings.

What really sets the machine apart, however, apart from the excellent MIDI implementation, are the rhythms and accompaniments – if ever there was a one-finger keyboard, this must be it. There's also an unusual facility for combining two voices simultaneously, giving you a rich variety of playing styles.

Remember, however, that the MT540 is strictly a 'home keyboard' and not a synthesiser.' This means that you can't edit the internal sounds or create new ones of your own. On the other hand, you do get powerful accompaniment features and immediate ease of use.

The unit boasts some extraordinary sound effects ranging from 'street scenes' – car horns blowing, motors revving and so on – to 'forest idylls,' complete with flowing streams and bird songs.

Together with the excellent voices, this feature – although possibly not of great long-term interest – makes the MT-540 a very 'demonstrable' keyboard for impressing (and annoying?) friends and neighbours.

For your money you also get a recording function for saving your work, but if you use it with your CPC you won't really need this.

The MT-540 is well worth a look if you're out for a cheap introduction to MIDI. Provided you're not put off by the thought of mini-keys (you get used to them...) then this is an excellent buy for anyone in categories one or two.

Kawai K1
Price: £595.00
☎ 0202 296629

Here we are right at the other end of the scale of affordable stand-alone MIDI keyboards. Kawai have really enhanced their reputation in the past year by bringing out the K1 – one of the best low-end synths around.

It comes with an excellent manual that makes mastering sound creation and immediate playing techniques very easy indeed.

It also has 96 pre-sets, divided into 64 'single' patches and 32 'multi' patches (which use several different sound sources and provide more complex sound structures).

The quality of all the pre-sets is very high indeed, including a sitar that almost manages to sound like one across the mid-range (most so-called sitar presets are rubbish).

To help performance, there's a neat LINK feature, which enables you to set up a series of performance parameters and then change from one to the next while playing by hitting a single button.

And very importantly, the K1 has that elusive quality that makes it great fun to play.

Perhaps it's the ease of use and sound editing; perhaps it's the inventiveness of some of the presets, many of which (such as MONSTAGONG or SUSPENSE) are quite awesome on first acquaintance; or perhaps it's simply because the unit is well-styled, compact, and has a good velocity sensitive keyboard.

Whatever it is, I've had a great deal more pleasure out of this unit than out of some three times the price.

The K1 is a very immediate instrument that won't take up much room in your house. It's a great buy, though more advanced musicians may find the MIDI implementation slightly restricting.

The K1 offers multi-timbrality, but not as powerfully as the MT32.

Definitely an instrument for players who can be both light-hearted and serious about their music at the same time...

---

sound infinitely better than they did before. Today's machines use natural sounds as the basis of their waveforms and can produce very rich, multi-layered effects that even Mr Stradivarius would have been pleased with.

But what can you actually do? At the simplest level you can have the satisfaction of recording your doodles, editing them, and saving them for the future.

For a very modest outlay, you can get a small keyboard that will, when combined with a suitable CPC interface, give you far greater spontaneous expression than the same instrument on its own. The Casio unit we review here actually reveals a whole new set of sounds under MIDI control that the normal user will never hear.

A little further up the scale MIDI offers great opportunities for doing something that you could not otherwise do so easily... and that's listen to your own playing.

When used in conjunction with a teach-yourself keyboard book, MIDI can help you analyse your playing and enable you to keep a record of your progress.

It's important, incidentally, to get out of your mind before we start the stupid but persistent prejudice that MIDI is a 'mindless system.' In fact it isn't really a system at all in the musical sense.

All it does is record and transmit the dynamics of your own performance. With a MIDI interface you can now apply your playing techniques to sound structures you never thought possible. You can also improve your technique using its recording facilities.

And even further up the musical ladder, MID can offer you a concert hall at your disposal, with up to 32 people playing at your command. The MT32, reviewed here, does exactly that – and even throws in the concert hall reverb, if you want it, as well!

Finally, the world of sound creation becomes infinitely more manageable using MIDI.

Most modern synths still use a fiddly combination of buttons, slide-controllers, and LEDs to edit their sounds. Now you can do it with your faithful CPC, saving time, recording your creations, and achieving total control over your hardware.

What do you need?

First, of course, you need your CPC (but you've already got that, so no problem!). Second, you need a suitable MIDI interface. The only one worth going for is the EMR model – the RAM Music Machine offers MIDI, but isn't suitable for most MIDI applications. (For more information, check out the article in *AA25*.)

Third, you need some space. Keyboards take up a surprising amount of room, and MIDI set-ups tend to breed a certain amount of spaghetti.

Although they're fairly durable, you won't want to be humping your stuff from one corner to the other when you want to hoover up!

Finally, you need a hi-fi system with an option to input external devices

(tape/CD/phono will do) and a pair of decent speakers. The speakers should ideally be made of stern stuff and able to handle hefty loads – most synths tend to deliver some alarmingly strong signals under certain conditions and you don't want your woofer to start wuffing under the strain.

Depending on which system you go for – and the ones we mention here are only suggestions (though good suggestions, we might add) – you'll also need a goodly selection of MIDI leads (standard five pin DIN plugs, wired pin-to-pin – pins 1 and 3 aren't used, though) and almost certainly some plug converters to help you plug your jack-plug equipped instrument into your phono plug equipped hi-fi.

As a general rule, you'll find everything you need at your local electronics store; Tandy are particularly good on these sort of leads, so try them first if there's one close by.

Now, all you need is the gear itself.

Types of system

Choosing and buying MIDI equipment is very similar to buying hi-fi. You assemble your system from among a number of discrete components to create the set-up that best suits your particular needs.

But caution is needed, for not all MIDI instruments are entirely compatible with each other. For example, your master keyboard is going to be pretty useless if it transmits only on MIDI channel 1 and your sound module receives only on channel 2.

Although serious incompatibilities are rare, it is not uncommon to find that one piece of equipment doesn't enable you to get the best out of another. Make sure you buy your gear from somewhere where the people know what they're talking about.

Equally important is the so-called MIDI implementation. The MIDI standard makes provision for numerous features ranging from different modes of transmission to the monitoring of pitch-bend wheels and foot-pedals. Not all products support all features.

For the purpose of this article we've concentrated on keyboards, but as you will soon realise you don't by any means have to limit yourselves to them. Bear in mind, however, that the MIDI standard, although implemented on wind and string instruments, tends to work best with either percussion or keyboard input devices.

Now check out the kit. We've rounded up a small representative sample that includes a couple of self-contained keyboards and some mix-and-match components. We've spread ourselves right across the price range, starting low, low, low... ●

Master Keyboards

Three budget units that enable you to control other synths

Prices: MK7VA £399.95, MK5V £274.95, MK5 £149.95
Cheetah: 0222 555525

A master keyboard is simply a keyboard with no hardware. All it does is translate your finger-tapping into MIDI messages and send them to anything connected that can translate them into 'bootiful musik, man.'

For some reason manufacturers of master keyboards always made them cost more than your average synth, so they have hitherto remained the preserve of the rich. Now Cheetah have changed all that...

Top of the range is the £399.95 MK7VA – a whole seven octaves of velocity sensitive, aftertouch keyboard. The velocity sensing allows you to output MIDI controller messages relating to the acute sensitivity and emotional integrity of your masterful performance – in other words, the harder you hit the keys, the louder the sound, chum.

What's more, the MK7VA allows you to split the keyboard into four zones, each with its own MIDI output and MIDI transmit channel.

This is rather like having up to four different keyboards simultaneously. You can also store performance parameters and send program change info to your sound console by a simple combination of button pressing using the units controls and numeric keypad. Pitchbend and modulation wheels are also provided.

Our review model of the MK7VA appeared to have trouble with some of its keys, failing to register some of the time or dampening the sensitivity at others.

Cheetah have reassured us that this was problem with the individual unit and would of course have been fixed under the guarantee.

In general, though, the construction appears robust and the feel of the keyboard is quite pleasing – certainly acceptable considering the very low cost of this product.

One last point about the MK7VA: all the performance settings are non-volatile and stay fixed even when the unit is switched off. Very useful.

The £274.95 MK5V is the next down the range, lacking two octaves and the aftertouch (i.e. speed at which you release the keys) of its bigger brother, but making up for it by being neat, compact, and having an excellent feel for the price.

The only thing you're likely to miss (apart from those two octaves) is the keyboard split option, which is extremely useful when playing synths, where you don't get all the clever accompaniment features and often want to play a different bass or rhythm voice with the left hand.

You do however get the voice and channel change buttons to keep you happy. Most MIDI newcomers are unlikely to lament the absence of aftertouch, since there aren't many module presets that respond to it anyway.

The lack of the upper and lower octaves isn't as bad as it might sound either, since you can adjust the range of the keyboard from software if you want.

Finally, there's the budget MK5 at £149.95, offering five octaves of slightly smaller keys, no velocity sensing and no modulation wheel. The construction of the unit is undoubtedly inferior to the others in the range, with slightly spongy keys and more noise than you'd hope.

On the other hand, there isn't another MIDI controller keyboard around at this price that we know of, so if pennies are your main consideration then go for it. At this price, you can't complain – and the unit is rugged and works works well enough.



● Casio's MK5: cheap but definitely not nasty



● Casio, MK5V: up the range, up the the spec

A big package – at a small price

All the serious software worth buying came out years ago – didn't it?

That's what PAT McDONALD thought, too.

PAGE PUBLISHER

£14.95 disk & 128K only
Stuart McColl, 15 Stepford Rd, Easthall, Glasgow G33 4NT

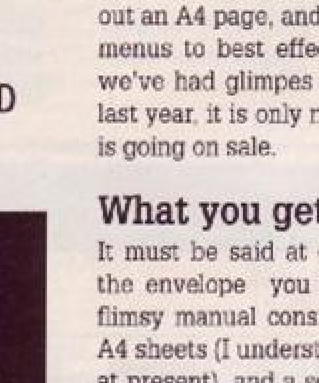
Any 'home' computer worth its salt must be able to perform genuinely useful tasks as well as play games. The CPC is well served for the traditional computer tasks of word-processing, databases and spreadsheets. But some tasks, such as desk top publishing, are not so readily available.

Stuart McColl of Glasgow has been working on a DTP program for the CPC for two years. It has been designed to edit and print-out an A4 page, and uses icons and pull down menus to best effect. Although here at *A A* we've had glimpes of the program since late last year, it is only now that the final program is going on sale.

What you get

It must be said at once that the contents of the envelope you receive are meagre. One flimsy manual consisting of stapled together A4 sheets (I understand that it's being revised at present), and a solitary disk doesn't constitute heavyweight documentation. On the disk are just two files, a boot program and the main machine code program. But a good feature of this Spartan arrangement is that the loading time for the program is minimal, merely a couple of seconds.

Once the *Page Publisher* is up and running you are presented with the only screen used. Everything is performed from the same 'canvas' area. This can make the program a little tedious to work with, but again the overall effect is to enhance the speed, because the *Page Publisher* does not have to continually wipe out and redraw screens.



● Stuart McColl (he's on p.51, too)

Pressing keys or using a joystick moves cursor around the canvas, which can be set to move at three different speeds. It is 'intelligent,' which means if it is continuously pushed in a direction, then it accelerates. I must admit that even the very fast was easily controllable *(bet we have arcade freaks writing in to complain! – ed.)*.

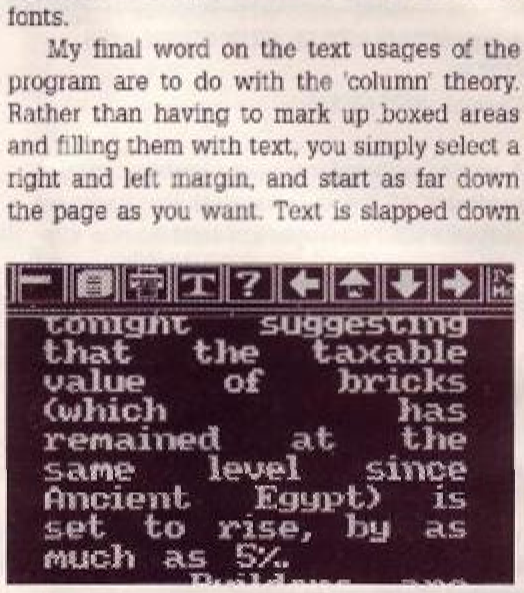
Size matters

DTP deals with two different media: text and graphics. Taking the text first, three different fonts are available at once for your immediate use. Two of these look very attractive, while the other is the standard Amstrad one. No doubt you will want some different ones though, for which eventuality a font editor is provided.

This can handle characters of up to 17X17 area, which is easily better than the standard CPC 8X8 font and gives *Qualitas* a brisk jog for its money. The only problem lies in the fact that because the program uses mode two, pixels are half the size in their x axis compared to their y axis (see accompanying illustration).

While we're on the subject of size, it's probably worth noting that text can be printed either in 'standard' 1 X 1 size (which means whatever size it was designed to), any square from 2 X 2 to 5 X 5, or variable. Variable means you could could have say a 1 X 5 text size, or 5 X 1, or any variation. This really squeezes some performance out of the three fonts.

My final word on the text usages of the program are to do with the 'column' theory. Rather than having to mark up boxed areas and filling them with text, you simply select a right and left margin, and start as far down the page as you want. Text is slapped down where you have indicated, saving lots of messing about with shrinking or enlarging a box to the right size. Loading text into a column is handled competently, though overflowing text looks a bit messy.



● Too narrow a column for justified (ie a straight right-hand edge), but you get the idea

Pictures with your text?

Page Publisher is designed to be able to be used to design electronic circuits. As a result of this, various electronic module icons are preloaded into the program. Alongside them are the more usual pattern shading, used for filling in large areas of blank space with stipples and effects that are easier on the eye than pure white or black.

There are 50 preset patterns in all. Editing them is simple enough, and the paint option to slap them down onto the page is no great task. There are ten different sizes of paintbrush.

Of similar purpose and use is the spraycan option. The purpose for using this is to paint in a similar fashion to an aerosol-producing

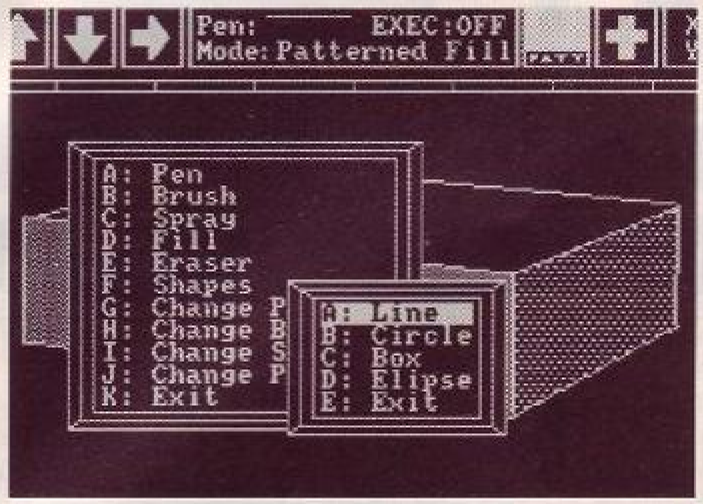
Hand on heart

Stuart McColl has devoted a fair proportion of his life to the development of *Page Publisher* and has at last decided to share the fruits of his labours with the CPC owning world.

'On and off, it's taken me about two years to do. I've gradually improved it, and intend to keep doing so: at the moment I'm up to version 1.4., which is when I added the disk commands like CAT, ERA and so on.

'One thing I can't really spend time doing is creating extra fonts. For a start, I don't exactly have the credentials for it! I suppose people will develop and exchange their own: if you devote some time and effort to it, font design can be quite rewarding.

'Finally, I believe very firmly in software support. So if users of *Page Publisher* get stuck, or make some suggestions about program improvement, I'll be glad to give a helping hand or lend a sympathetic ear. Honest injun.'



● Detail of your list of options – very nicely done

random splattered dots of ink onto the screen wherever you might want them. The thickness of the nozzle has three settings, as does the paint factor (lots of, not much and virtually none).

Most of the more basic kind of illustration is supplied by the *Page Publisher*. This comprises everything from line drawing, through drawing regular polygons, circles, and elipses. Rectangles are also no problem. There are a total of ten different pen widths available, which should be enough for most people.

Only weak feature

There is a facility for loading in screens from outside the program – for instance, from the *Advanced Art Studio*. This can be accomplished in all three screen modes, but is not without its snags. For a start, approximately the bottom third of the screen is not loaded. And what is loaded is slightly compressed in the y axis, so circles don't look like circles anymore. It's a pity really, and it's the only weak feature of the *Page Publisher's* graphics handling.


THE DAILY BRICK

Tax Rate Up

Sources close to the Government are tonight suggesting that the taxable value of bricks (which has remained at the same level since Ancient Egypt) is set to rise, by as much as 5%.

Builders are

Hadrian's Wall gets plastered

In a sudden burst of maudlin sentiment, it appears that Hadrian's Wall, one of Britain's best loved scenic security barrier, has

● *The Daily Brick*, as created on *Page Publisher*

As a final note, I'll just say that the resolution of the program is 814 in the x axis, and 576 in the y axis. Printouts can be done in A5 as well as A4, which should convince you that this resolution can produce some very effective results.

Using it

It must be said that when you actually sit down and use the program, its way of working is very easy to understand. After pulling down a menu option from the top of the screen, you can either use the movement keys to select the item you want, or alternatively select it menu-fashion by pressing the letter displayed at the side of it.

Rather than having always to go to the menu bar at the top, certain very commonly used commands are held in a special menu, which is pulled down onto the screen when **ESC** is pressed.

The program works with a joystick, and both the numeric keypad and the cursor keys. However, the former are much better, because you can get diagonals. The **f5** key is the 'fire button' or Execute key. This can be locked on if needed.

I can see this program becoming one of the standard software packages on the CPC. This is not because it is the best: *Stop Press* has many more features.

The reason is a) the extremely attractive price, and b) the fact that it is up to a reasonable standard and is capable of producing worthwhile pages.

If you want to learn about DTP *and* be able to design some professional looking pages without too much fuss or too much expenditure, look no further. *Page Publisher* is a true budget offering, offering fair performance for little cash outlay.●

Er, what *is* DTP?

DTP enables you to lay out a finished document on a computer system and so supply a printing company with a finished version or acetates – as opposed to giving them text, illustrations and a suggested layout in a big heap, and expecting them to get on with it. It's a recent development that is advancing in exciting new ways all the time. For instance, the first issues of *AA* were done in a way that an Elizabethan printer would have been able to understand (though he might not have known what CPC stood for!). Since then, however, we've moved to a system whereby text, or 'copy' as we call it, is composed on CPCs; sent down a wire to an Apple Macintosh; worked upon with great care and attention by Steve; and set up on the page using a DTP package, *Quark Xpress 2.0*. Then Ollie gets his hands on it and it's never quite the same...

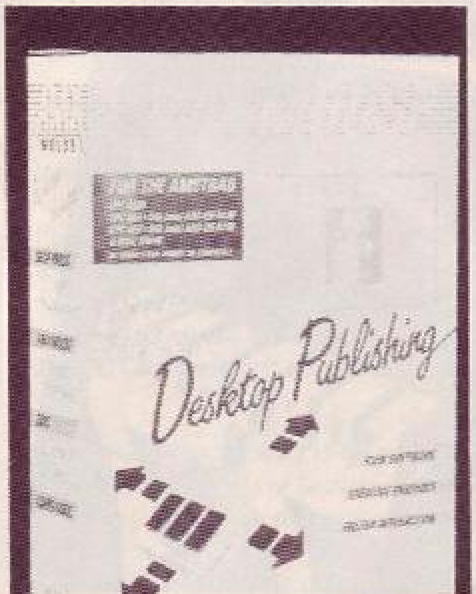
Desktop Publishing packages on the CPC

There are few DTP programs available for the CPC. At the top of the list is the classic *AMX Stop Press*, now marketed by Database (see last month's *Amscene* for details) at the hefty sum of £69.95 (☎ 0625 878888). Needless to say it needs 128K and a disk drive. It doesn't all fit into memory at once (unlike *Page Publisher*) and therefore is not particularly fast to use, although the commands themselves are speedy enough.

Siren Software's *Micro Design* costs £29.95, and was reviewed in *AA28*. Although Richard Monteiro was very pleased with it at the time, since then it has come to light that it's not all that it was cracked up to be. Good for designing graphics, the text options lack slightly, and although OK for posters and similar literature, *Micro Design* is not as good for text-rich DTP as *Page Publisher*.

In *AA38* we finally received a copy of Mirrorsoft's *Fleet Street Editor*. Suffice to say it featured in our end of year 'Major Turkeys of '88' feature.

To round off, a few issues ago (*AA41*) we reviewed Microdata's *Tiny Desk Top Publisher*. This only costs £6 on disk (6128 only), and needless to say at that price you don't get a whole lot. It is pretty good for teaching fundamental theories about DTP, and so it's more of a learning aid. DTP is possible on it, but only at the expense of time and effort.



● The excellent *Stop Press* – still *the* DTP package for the CPC. But it's more than four times the cost of *Page Publisher!*

GOOD NEWS

- **Simple text entry.**
- **Attractive price.**
- **Reasonably fast to use.**

BAD NEWS

- **Distorts screens from outside.**
- **128K only.**

FORUM

Help is on hand in the shape of large but perfectly formed PAT McDONALD

Welcome once more to *Forum*, where Pat does his level best to answer your questions and pass on your hot tips on *all* aspects of CPC computing.

Don't be too disappointed if your masterpiece isn't in this month: we receive heaps and heaps of mail, and it's sometimes two or even more months before we can find room for letters.

●That's the way to do it!

Vivien Rutter was after a Fortran compiler back in *AA42*. Advantage sell *Nevada Fortran* at £29.95: their address is 56 Bath Rd, Cheltenham, Gloucestershire GL50 7HJ.

The Nevada compiler translates a Fortran IV program into 8080 assembler statements. A separate assembler program then turns these into 8080 object code *(CPM* .COM *file – Pat)*. I've used this and it seems Ok.

Bernard Kat, Jesmond



Thank you Bernard, and the many other readers who wrote in about this. I've also tracked down another guide to Fortran – it's called Programming in Fortran 77 by N Kantaris, ISBN 0-85934-195-X, published by Bernard Babani and costing £4.95.

●Stars on speed

Thanks for the goodies on the Christmas tape, especially for the Solar System program. Graeme Watt-Porteous is to be congratulated on a neat application of the textbook by Duffet-Smith. After running a few checks the positions generated by the program seem quite reasonably accurate.

My only objection to it is the length of time it takes to complete its first screen output. This can be cut from 3.5 minutes to just 45 seconds by making the following changes.

Enter `DELETE 800-820` and then the following lines:–

```
105 CLS:PRINT"Please Wait :-":DIM sc(360,2):DEG:
    FOR i%=1 TO 360:sc(i%,1)=SIN(i%):sc(i%,2)=COS
    (i%):NEXT i%
800 cod=COS(d(p,3)):sod=SIN(d(p,3))
805 FOR an=1 TO 360 STEP K*3
810 x=d(p,5)*sc(an,2)-d(p,4)):y=d(p,5)*sc(an,1)*
    SQR(1-d(p,4)^2)
820 x1=x*cod-y*sod:y1=x*sod+y*cod
```

These 'patches' precalculate the SIN and COS values used in generating the planetery orbit displays, as opposed to calculating them 360/k times. It also uses one third the number of steps to draw the orbit of a planet.

Yet more time can be saved by further increasing the value of k in line 805 – but then the orbits look a bit scrappy.

Frank Dyson, Elland

An impressive increase in speed indeed, Mr Dyson – worth £10 of anyone's cash. Well, AA's anyway!



●No worries!

Can you or one of your readers assist me in the following programming task? I am trying to write a Basic program, part of which is as follows:–

```
10 MODE 2
20 WINDOW 8,71,1,24
30 a$=INKEY$
40 if a$="" THEN 10
50 IF INKEY(79) <>-1 THEN ???????
60 PRINT a$;
```

I need a routine in line 50 so that when the DEL key is pressed the last character typed and shown on screen is deleted and the cursor backspaced (as it would be in normal editing) so that typing can continue by means of GOTO 10.

I've heard of CHR$(8) and CHR$(10) but I don't have a clue how to use them.

John Taylor, Clowne

The problem with your program, John, is that you are not storing the entire string that the user is entering. If you do that, and just delete to it if the DEL *is pressed, and add to it when a different key is pressed, that should solve your problem.*

Bear in mind, however, that it's necessary to terminate the sequence by pressing ENTER *or* RETURN, *and also that it's more sensible to keep printing the whole string continuously. This slows down the computer, but all it's doing anyway is waiting for you to type something.*

Try this instead:–

```
10 MODE 2
20 WINDOW 8,71,1,24:b$="":a$=b$
30 WHILE a$ <> chr$(13)
40 a$=INKEY$
50 IF INKEY (79) <> -1 AND LEN(b$) >0
   THEN b$=LEFT$(b$,LEN(b$)-1):LOCATE
   8,1:PRINT b$+" ": ELSE b$=b$+a$
60 LOCATE 8,1:PRINT b$:WEND
```

Finally, don't forget that the maximum string length on the CPC is 255.

●To b:drive or not to b:drive...

Recently my second 5.25 inch disk drive has packed up (I own a 6128). Before, to transfer files under CPM+ I used PIP to copy files onto the second drive, and then back onto a new 3 inch disk.

Now when I try to transfer files by typing PIP A:=B: it doesn't copy, but tries to access



● Second drives: do unplug them

the second drive as if it were in Basic. I have tried my master disk, but it is just the same. It worked before I used my second drive, but now it doesn't.

Does a second drive change anything inside CPCs? Why does CPM+ insist on '2 Disk Drives Found', when I have unplugged my second drive? I am going spare over copying files!

Andrew Goodchild, Ipswich

Assuming that the second drive is no longer plugged into the computer, it sounds to me as though your CPC isn't happy with not having a second drive – it still thinks one is plugged in, even when it's not! CPM+ always checks to see if you have two disk drives, and as it is (erroneously) finding one I suggest you have your Amstrad looked at by a qualified engineer.

If you have not unplugged the drive from the computer, do so **at once**. *It will try to draw its power down the connecting lead from the computer, possibly overloading it.*

●Y-fronts in a twist!

Has anyone else noticed the deliberate mistake in your reply to A. Thomas Dorset's query about cataloguing disks to his printer (*Problem Attic AA41* – 'Cat among the pigeons') ?

You appear to have got your Y-Fronts in a twist! Or, more accurately, your x's and y's. Lines 80 and 90 should be transposed, otherwise the cursor scans the screen from top to bottom, moving right by a column at a time, instead of vice-versa. Like Chinese, but upside down!

Also, the RESTORE command in line 20 points to line 50, but the DATA is in line 60. Apart from these little mistakes, the program works perfectly.

E. G. Bond, Swansea



ly...
One pos... tion isn't implemen... case the game, in which case it cou... would be difficult. I daresay it could be done: we'll just have to wait and see if we get a program that fits the bill.

CAT among the printers

Is there a way I can CATalogue a disk or tape to my Citizen 120D printer?
A Thomas, Dorset

Just type in and use this listing. Be warned that for tapes you should pres... ESC twice, and then type GOTO 20... Sorry about this, but the command C... works differently for tape and disk.

Sorry about that one, readers – a case of McDonald myopia is believed to be the source of the problem. Professor Andrew Higgins of the MOD has coined a term for the printouts: patroglyphs.

Here's that program again, only this time it's right. Honest.

```
10 MODE 2:CAT
20 RESTORE 60
30 FOR z=&BF00 TO &BF06
40 READ b$:POKE z,VAL("&"+b$)
50 NEXT z
60 DATA cd,60,bb,32,07,bf,c9
70 PRINT #8
80 FOR y=1 TO 21
90 FOR x=1 TO 80
100 LOCATE x,y:CALL &BF00
110 a$=CHR$(PEEK(&BF07))
120 PRINT #8,a$;
130 NEXT x
140 PRINT #8
150 NEXT y
```



RSSSSX
OETUYS
ITABSU
NUTMGB
TP IE
I TN

● Two attempts later, no problem

●Can it be done?

Does the CPC-SCART connection from *AA41* really work? I bought a 6 pin DIN-SCART connector from Tandy for £9.99, and plugged it in. It gave me a picture but:–

1)The horizontal hold was bad. It was possible to see that it was trying to display the switch-on screen but it couldn't be used;

2) The screen was overlaid with the letters AV, which are displayed by the television when the AV mode (and SCART input) is selected;

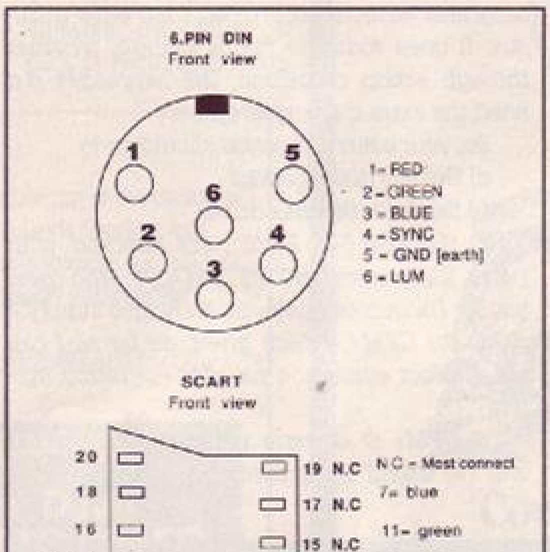


I then read the instruction booklet for the Mitsubishi CT-2534X and found that:

1) The SCART pin connections did not correspond with those in the diagram. I see in *AA42* that this was in error. By then I had returned the connector to Tandy believing it caused the poor picture;

2) It does not appear to be possible to tune or adjust the AV mode channel on the TV;

3) The letters AV appear to remain displayed on the screen throughout unless AV mode is automatically switched to by equipment using the SCART socket.



● The correct SCART-CPC wiring diagram

I will be taking up points the second and third points with Mitsubishi, but I wonder if the problem is in the CPC? If the signals produced by the CPC do not conform to SCART standards it would explain the poor picture.

John D Copley, Rickmansworth

The CPC's video quality is up to SCART standards. You do not have to tune a SCART channel. The whole escapade makes me think that your TV is doing clever things with the socket, as opposed to just dumbly accepting any RGB signals coming in.

However, it would appear that not all SCART equipment is the same! Most of the time it is necessary to connect some resistors in series to the colour signals. A lot of readers have sent in this suggestion for improving picture quality, and the most often quoted resistor value is somewhat less than 330 Ohms – the precise value is not too important.

As for your last point, I believe that your TV is waiting for some kind of signal to drop the letters on the screen. As you're pursuing this line of enquiry all I can really say is, good luck, and perhaps you could let us know how you get on?

It's broke!

I bought a DDI-1 disk drive for my CPC464 about 18 months ago. Sometime afterwards I bought the CPM public domain languages disk 5 and had a lot of fun playing with Prolog and Small C *(SCI)*. Although I did not use the others much I did succeed in loading the programs.



● Guess which is broken?

At some stage I purchased the Dk'tronics 64K extension RAM and made a new CPM system disk to give me 63K TPA (*memory space*) by calling *NEWCPM*. I did this following instructions enclosed with the extra RAM. I have moved house since then, and now I cannot find the instructions. I am not sure when I bought the RAM, however I am pretty sure that it was after I had successfully run all the programs on the language disk.

Recently my disk drive went wrong. There was no power to it and my husband looked inside and found that a fuse had blown which he replaced. He could find nothing else wrong with it and it seemed to work fine after that – until I tried to use *SCI* again!

Using my standard CPM system disk *SCI* just will not load. It accesses the disk a few times then sits and loops with no prompt coming up on the screen and the disk motor running. Prolog seems to load OK but none of the other CPM programs will. LISP gives me a stack overflow.

I thought my disk was corrupt so I got out the original disk and copied everything over again. The new copies did exactly the same thing. Then I loaded *NEWCPM* and tried loading the programs with that. They all loaded and seemed to work until I tried saving files. Then I got:–

```
Bdos Err On A: R/O
```

Aha! I thought, it's because I've got the extra RAM plugged in. So I switched off, removed the extra RAM, switched on again and tried loading under ordinary CPM again. Nothing worked – even Prolog wouldn't save anything! I tried *PIP* commands, writing to disk. They worked OK, with and without the extra RAM and with and without *NEWCPM*.

Amsdos seems to work perfectly well loading and saving files, with and without the extra RAM. Am I doing something incorrectly or is there something wrong with my software or hardware or firmware? I know saving files used to work because I've got some on disk that I saved when I first bought the disk, so what's different now?

Finally (hurrah! you say) do you think it would be worth purchasing CPM+ for my system? Will it make my problems go away and will it make these programs run any better than with *NEWCPM*?

Mrs L Johnson, Reading

A tricky one. The disk error indicates that the disk has been STATted *to read only. If your languages were trying to create temporary files and then erasing them, a similar error would result.*

On the other hand, it's possible that the system track of that particular disk (where CPM lives) has been corrupted very subtly. This would give all sorts of problems.

The fact that a fuse blew leads to an obvious question: why? Has the fault (if it exists) been rectified?

As for your complete inability to load the programs without NEWCPM, I am very dubious. It does sound to me as though, whether through action or design, the languages ***do*** *need the extra memory to operate.*

So, your course of action should be to

a) Get the disk checked.

b) Same for the disk drive.

c) Get the 64K RAM pack checked with Datel Electronics (☎0782 744707) who now handle Dk'tronics business: they also supply a patch for CPM+, which gives, as far as I can tell, perfect emulation for that operating system.

d) CPM+ is an extra string to your bow. It will be useful for providing a reliable large memory area for CPM applications. I'm not saying it will cure all your problems, but it should be of use. CPC (☎0772 555034) supply it for £12.87.

Not yet redundant

I have an ageing 464 (about four years old) and I have decided to type in the *Jet Set Willy* poke from *AA1*. When it was finally in, I started to load *JSW*, only to get the error message **Memory Full**.

I purchased a *Multiface II* in December, and I am delighted to find the Black Box section in *Cheat Mode*. I plugged the *Multiface* into the back, and loaded *Wizball*. Then I read the instructions, only to find it going on about 'make sure the switch on the front is in the up position' and 'move the switch to the down position after it has loaded'.

What switch? Has my *Multiface* mutated or have I been ripped off? Do I send my CPC to the scrapheap?

Alex French, Waterlooville

Yes and no. The current version of the Multiface *has an internal switch. The idea is that you press the stop button just after switching on the computer, and return straight away.*

This leaves the Multiface *off until you press the stop button again, which turns it on and wrests control away from whatever program is running at the time. The reason for the switch is that some games (like* Wizball*) look for the device, and will not load if it's switched on.*

Elsewhere in this issue there's an introduction to these Black Box jobbies that may help to straighten you out, Alex – and all the other correspondents with similar problems!

And did you know...?

I'm writing in response to Martin Riding's problem (*WordsWork AA42*) regarding printing of IBM graphics characters from a Panasonic KX-P1081 printer. Firstly this printer does indeed support IBM graphics modes; and secondly, because it also has the ability to control the eighth bit, it is relatively easy to access the

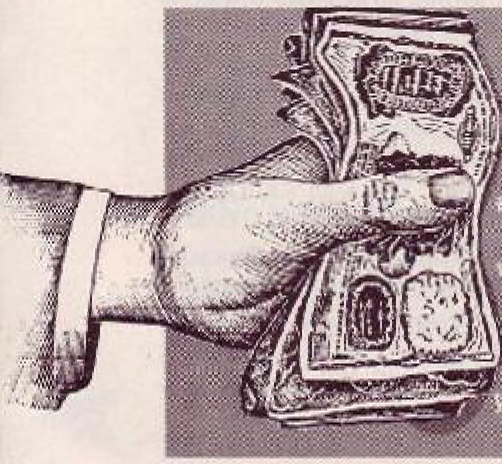
Unjustified remarks?

Twice recently I have read in *AA* that *Tasword* justifies slowly, letter by letter. This is not true as far as *Tasword 6128* goes: in one of the customizing menus there is an option to 'Suppress Screen Rejustification Y/N.' If you put in an affirmative, then the rejustification of a paragraph is carried out in a flash.

One advantage *Tasword 6128* has over *Protext* is that you can fit in a file of 67K. Compare this with the ROM *Protext*, which gives 40K without a mail merge option!

J H Morris, London

Is it really fair to compare* Tasword 6128 *with* Protext, *which works on all CPCs? What about using the CPM +version of* Protext? *That can have files as large as the free disk space.



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graphics characters with ASCII values above 127.

The procedure is as follows:

- First send the codes to select the required IBM mode ie 27,109,n where n=1 for IBM matrix, 2 for IBM graphics I or 3 for IBM graphics II.
- Then, to print the graphics characters, send the codes to set the eighth bit on (27,62) which tells the printer to add 128 to subsequent ASCII value.
- Now, by looking up the code of the required character and subtracting 128 from it, if this value is sent to the printer then the corresponding graphics character will be printed.

£10

The following short program for example prints a square root sign.

```
10 PRINT #8,CHR$(27);CHR$(109);CHR$(2);
20 'Select IBM graphics I
30 PRINT #8,CHR$(27);CHR$(62);
40 'Set eighth bit
50 PRINT #8,CHR$(251-128)
```

Remember to turn the eighth bit off (27,61) to print ordinary letters. All the above information can be found in the excellent instruction manual for this printer.

J. Clegg, Wirral

And on that note, the topic of the Panasonic KXP1081 is closed. Thanks for the many letters on the subject.

●Extra hardware?

I have a CPC464 and a DMP2160. Using *Tasword 464* with a selected *Tasprint* font I have printed out the enclosed sample. You can see that I have not only printed the normal characters but have printed the other 'second' character set already defined in *Tasword*.

What confuses me is that I can't print the second character set in standard font, and have been led to believe that this is impossible without an eighth bit printer port. Why is this? Surely if I have managed in one font then the characters are printable without any printing over ASCII 127? Somewhere in *Tasword* there is the code needed by the printer to have managed a far more complex printout.

N Orme, Wolverhampton

Don't confuse this letter, dear reader, with the above one. Tasprint *is merely intercepting the codes above 127 before they go to the printer port, and replacing them with the complex graphics commands needed to produce the enhanced output.* Qualitas *is similar in this respect, allowing you to print characters with a code above 127.*

But, as you so wisely point out, you still can't print characters normally that have a code above 127. And one problem that occurs with Qualitas *is that, for most fonts, managing without an eight bit printer port results in the top line of pixels of your text not being printed.*

●Art in the right place

I own a 464 and have recently bought a DMP2160 printer. I am very happy with the printer itself, but I need to be able to print out simple pictures for a forthcoming Technology project at school. I have tried the *Image System* from CRL, but the picture printing program has a bug – therefore no printout!

I have looked at all kinds of packages, but the ones that seem suitable are either on disk or require an extra 64K of RAM. The latter is a possibility, but first I have to know what to aim for. Would *Melbourne Draw* do the business, or perhaps one of the *Art Studio* packages?

Is the DMP2000 ribbon the same as the DMP2160 ribbon?

RJ Stevens, Wokingham



Melbourne Draw is indeed the best 64K tape art program for the CPCs. Unfortunately it is no longer being manufactured, and the signs from Virgin/Mastertronic are that it won't be. However, if you can find a copy, go for that.

The Art Studios both require a disk drive. The only real contender for the job is Easiart from Micro-Draw Ltd. This costs £14.95 for the tape version, and has most of the features of Melbourne Draw, except that it only works in Mode 1. Read AA20 for the full review, and then contact MicroDraw Ltd on ☎0622 685481.

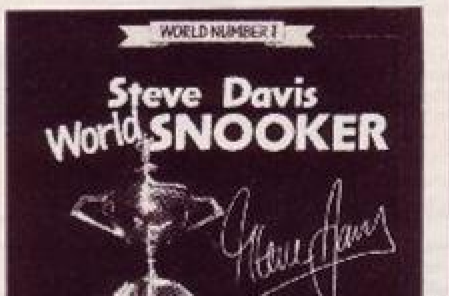
As for the ribbon: yes. ●

●Int'restin' letter

Is it joystick design and efficiency that allows accurate placing of the cursor, or something else? The reason I ask is that we have *Steve Davis Snooker*, and even with a six microswitch joystick it is often impossible to make the cue ball impact at exactly the desired point. The result is a decidedly unDavis-like missed pot!

What's needed is some way of moving the cursor gradually and continuously, rather than in short, sharp bursts. Is there one?

John Hawkins, Stevenage



All joysticks for the Amstrad work by 'time of contact'. The joystick direction works for the time that the switch is in operation. This means that the faster your reactions, the more accurate your joystick control will be.

What you need is some sort of 'intervention' device for precision control: something like a firebutton for each direction, which would give a short, precise shove. I've never seen anything like that – Hardware Project, anyone?

AA SMALL ADS

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Steve

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K. Gillard, 80 Wentbridge Rd, Bolton, Lancs BL1 2QR ☎ 0204 399198

Help on Wizball, Platoon, Stormbringer, Bubble Bobble, Bards Tale, Gauntlet II, Robocop, Army Moves, Renegade, Target Renegade. Send 50p & SAE for full list (over 200 games) & 20p + SAE per game
David Hayes, 7 Glen Creran Cres, Neilston, Glasgow G78 3QN

10yo penpal wanted. Interests: Quill, games and programming in Basic. Help and tips on following offered: Gauntlet I, II, Dizzy I II, Starglider, Escape from Singes Castle (lev 1), Superstuntman, Army Moves
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Christopher Street, 43 Ridgedale Rd, Bolsover Derbyshire S44 6TX ☎ 0246 827135 after 5pm. (No I haven't 'made a boo-boo,' Chris, we put you in every so often, as we do with everyone! – ed.)

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Michael Gledhill, 21 Newtake Rd, Whitchurch, Tavistock, Devon PL19 9BX ☎ 0822 615406 after 6pm

Listings printed 20p per page, send tape or disk with listing on and SAE. Pokes for many games, SAE for list, 20p poke per game. Penpals wanted for 6128 & Multiface II owner
Russell Whitwell, 2 Chase Mews, Chase Rd, Ross-on-Wye, Herefordshire HR9 5JQ
☎ 0989 66987

Pokes, hints & maps. Send middle-sized SAE for list
Jeffrey Almond, 183 St Helens Rd, Eccleston Park, Prescott, Merseyside L34 2QB

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Desmond Coughlan, 7 Abbotsford Place, Cumbernauld, Glasgow G67 4BJ

Desperately seeking penpals, overseas contacts welcome. Send SAE if overseas
F. Rutterford, 77 Howdale Rd, Downham Market, Norfolk PE38 9AH

Lots of Multiface pokes up for grabs! Send large SAE
N. Howell, 1 Turner Rd, Biggin Hill, Kent

Help with Basic and m/code, debugging Basic progs (send tape and enough stamps for return: no discs). 464 tape problems, Rams & romboards, joysticks, ram Music machine, Midi, General CPC problems (hardware/software)
Peter Harrison, 38 Lynmouth Drive, Wigston Fields, Leicester LE8 1BP

Help on disk drives, printers, Protext, disk backup, tape to disk Multiface and tape loading problems
Someone from Thanet who forgot a vital bit of information: name and address! Wake up matey! – ed.

New 6128 owner seeks penpals
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19yo 6128 owner wants penpal who can program M/C so he can learn
John Mullen, 62 Lonsdale St, Workington, Cumbria,

Ireland only: utilities: disassembler, real time clock, disk search, 6128 extra memory commands. All m/c. Send tape/disk & padded SAE to
D.J.Daly, 'Amber Pines', Annmount, Glounthaune, Cork, Eire

Tape to disk, 464 loading problems, CPC firmware and hardware, disk drive problems, Multiface Two, Hackit (Siren), 6128 tape recorders, Epson compatible printers, simple M/C, computer repairs. And penpals, m/f, over 15 please for 19yo
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AA HEL

Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: *Helpline*, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ. *Please write on a postcard or the back of a stuck down envelope* and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner – not us. By post include a self-addressed, stamped envelope for the reply – or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. If you want to come off *Helpline* just write and say so.

All comments are the editor's.

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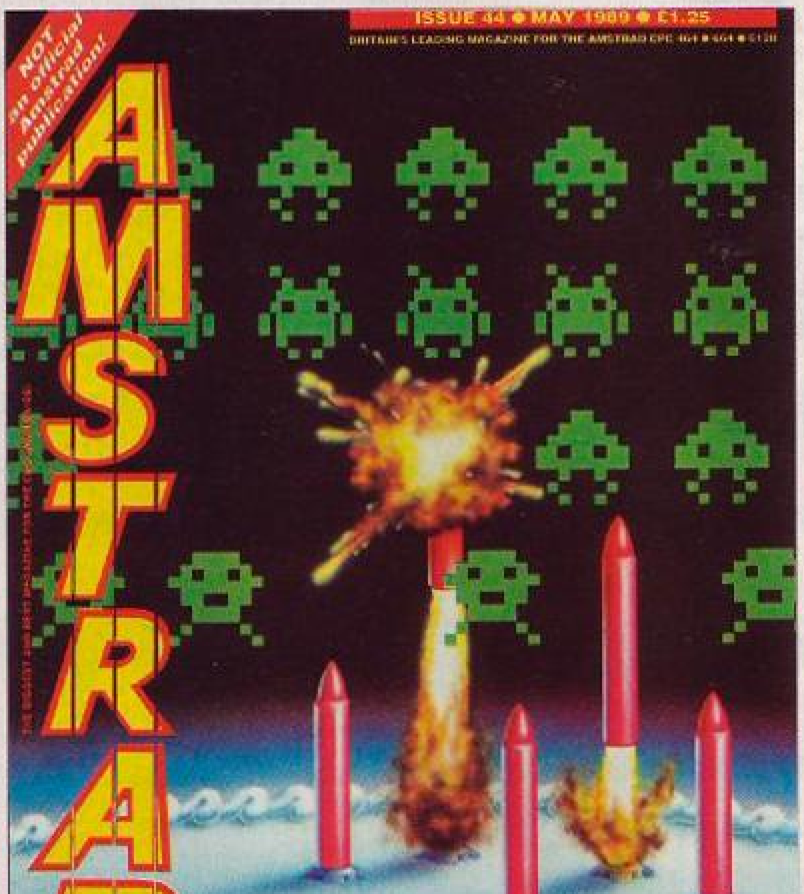
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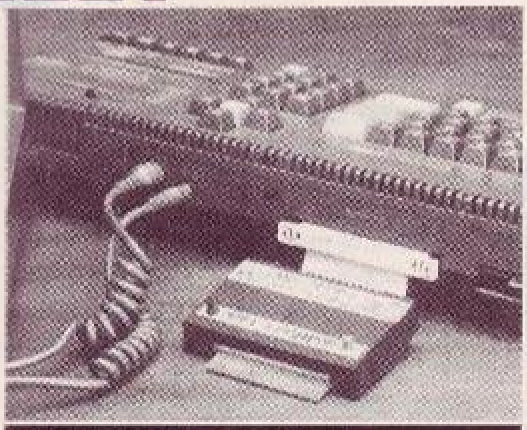
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Break in!

Getting through protection, breaking into code – PAT McDONALD introduces the CPC burglar's tools.

It is all too easy to look upon your Amstrad as a couple of boxes with a plug. You can play games or do some word processing on it, but exploration is taboo. Wouldn't it be exciting to reach out and go where you've never gone before?

If you unscrew the case and just peer inside, you're really not going to get very far – and if your computer is still under warranty, you'll lose your guarantee. (If that's what you're into you should be reading Stuart McColl's new series beginning on page 51.) No, what you really want is something that can provide a window onto the working CPC in its own terms – numbers flowing around memory.



● The Multiface II – as used by AA

The simplest way to achieve this is with something that generally gets called a 'black box' – a piece of hardware you plug into the back of your machine, which can interrupt the computer whenever you feel inclined. There are two 'mainstream' devices currently available, Romantic Robot's *Multiface II+* and Siren Software's*Hackit*.

Alternatives are limited. True, various software companies (the excellent Nemesis and Goldmark, for instance) produce programs that load in games saved with various protection systems, and then save them out to tape or disk: but these demand continual updating in order to beat the latest techniques developed by software houses. Then, once you have the unprotected code, you still have to buy a development package like Maxam or Pyradev to take the code apart...

On the hardware front, there used to be three other black boxes. These were the Action Replay from Datel, Disc Wizard from Evesham Micros and Imager from Mirage. All suffered from the fact that user input was needed in order to save games, rather than the automated button pushing of the Multiface (probably due to the latter devices' 8K of built-in RAM).

Of course there is the final alternative, as used by pokesmaster Phil Howard – get an assembler and take on the protection system by hand. Funny I should mention that, because if you just turn over the page you'll bump into the beginning of a series designed to help you get started in just such a venture... (We don't just throw AA together, you know – though it looks that way!) ●

HACKIT

Siren Software ☎ 061 228 1831 ● £34.95

If you really want to get inside games and turn them inside out, upside down or round and round then *Hackit* is really excellent value. Like the *Multiface*, it remains waiting in the wings until you press a button, when it leaps out and takes control. Unlike its competitor, though, *Hackit* is especially built for hacking.

Once you're inside the program, it's pretty easy to start looking about. One problem you'll soon encounter though is that you it's tricky to differentiate between data and the program. Luckily Siren have provided for this, in that the command MEMORY brings down a basic graph of memory usage. On this it's generally quite easy to differentiate the two different areas: data is more stippled, with program code coming over as a solid block.

One quirk of *Hackit* is that on a standard 464,664 or 6128 it can only access most of the memory, from &40 to &A67F. On a 464 or 664 with an extra 64K of memory though, you can look through the lot. 6128 owners suffer a raw-ish deal because their machine knows that it has an extra 64K of memory: the 464 and 664 don't and so are actually better as a result! Funny old game, hacking, squire. The missing memory for 'standard' machines is generally unavailable to programmers anyway.

Recently the improved *Hackit* has appeared. It costs a bit more (the old version was £29.95) but now has its disassembler working properly, and also a built-in assembler! This means that, with just the basic device and no extras, you could happily go through most games and take them to bits. If you have a 64K expansion, then all software is at your mercy! Eeee, it were never like this in t' old days... I remember when I were a lad– *(that's enough old McDonald – ed.)*

Important notes

1. Use of either hardware device featured here requires some knowledge of machine code. If Richard Monteiro's *First Bytes* didn't mean much to you then you have little hope of hacking games successfully.
2. No, we're not encouraging piracy.
3. If you want to learn to drive I won't stand in your way: but if you break both your legs don't come crawling to me. *(Er, let me translate: if you screw up your computer or software, don't blame McDonald – ed.)*

MULTIFACE II+

Romantic Robot ☎ 01 200 8870 ● £47.95

Originally the *Multiface*, this device contains its own 8K RAM area and has undergone a long period of design improvements and software updates. It is aimed primarily as a software backup device, to copy games from tape to disk, with secondary hacking capability.

Soon some games had routines included to detect the *Multiface* and crash if it was fitted. So new *Multifaces* were fitted with a switch to turn the device off if it was not needed. This proved a dead end, as a manual switch could too easily be broken by over anxious wagglers. Nowadays the switch is fitted to go on in tandem with the stop button, so that software can't detect it until it's working!

From the hacking viewpoint the *Multiface* is not quite what the doctor ordered. It can certainly break into games adequately, but the memory editing capability so necessary to hacking is just not present in unmodified form. All that you can really do is look at the raw data numbers in memory, and convert them by hand (or rather, by looking them up in a book and writing down the assembly language instructions!).

If you're dead set on looking at programs in assembly language (which is fairly recognizable, unlike pure machine code) then Romantic Robot do a product called the *Insider*. This is a disk only program that you load before running the software that you wish to investigate. When the *Multiface* is activated, the *Insider* code gives you a full disassembler as well as a monitor. The only bad part about it is the price – £14.95 for the *Insider*, on top of the*Multiface* itself.

Program stuff

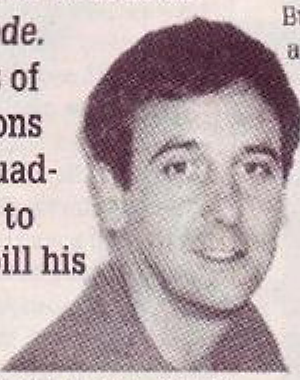
```
95C  LD   E,A
95D  ADD  A,A
95E  ADD  A,A
95F  ADD  A,E
960  LD   E,A
961  LD   D,&00
963  LD   HL,&114E
966  ADD  HL,DE
967  LD   E,&0B
969  LD   IX,&0279
96D  LD   IY,&57EF
971  LD   B,&05
973  LD   A,(HL)
974  AND  A
975  JP    Z,&0996
978  LD   (IY+&01),A
97B  INC  HL
97C  LD   (IY+&02),&E8
980  LD   A,(HL)
981  INC  HL
```

● Expect some help – but you'll have to work too!

Insider dealing



You've seen his work dozens of times in *Cheat Mode.* Now, after months of delicate negotiations we've finally persuaded PHIL HOWARD to come clean and spill his secrets.



You've written all your letters, you've stored every single one of your 'phone numbers, and you've played games until you're heartily sick and tired of being wiped out just as you finally reach level 2. So what's next? What else is there?

How about a spot of subversion? Slip on those Raybans, loosen up a little and enter the twilight world of the software hacker.



● The hacker's equipment. Sunglasses optional

Hacking is an esoteric activity, a brotherhood that appears more exclusive than the Masons. Yet anyone who has been involved with computers for a while, and picked up enough understanding of the memory system, and Z80 M/C code to manipulate a commercial program is perfectly capable of hacking into it. In this respect Amstrad owners have an edge over the competition. The CPC's open and fully documented structure is uniquely helpful to the hacker, providing information and ease of access others struggle to achieve. Moral: if you want to hack, don't upgrade!

A definition: a hacker is a person who attempts to gain access to someone else's program, to modify some aspect, create a new feature, or simply, to look through the code.

There are often messages left in programs by their authors. These messages can range from names and addresses, through bits of poetry and witty(ish) remarks, to, in one case, some rather outspoken annoyance at the meanness of a software house, and its subsequent involvement with *Amstrad Action* over the free cover tape and game, back in *AA8*.

'Because it's there'

But why on earth, you may be asking, should anyone want to spend hours (and hours) on end in front of a screen full of code, searching for that elusive number or two amongst a haystack of probably forty odd thousand others? There are several reasons:

- The first reason, corny as it may sound, is quite simply because it's *there*. The sheer challenge of beating a protection system, using every possible bit of logic and experience to track down and modify a specific routine, has all the addiction and frustration of any adventure, but with a much more tangible prize at the end of the quest. Adventures are all very well, I suppose (he said sniffily), but you're really only playing a game. When you're hacking, though, you are a real live dectective, looking for clues left by the programmer. He or she has tried very hard to keep you out, but despite that you've got past the defences.
- Secondly, spending this much time looking through professionally written code is an ideal way of learning and improving programming techniques. If you wanted to write a novel you'd want to find out how other, greater writers than you have gone about it. You won't necessarily end up copying, but unless you know the rules you won't know when or why to break them.
- The third and most obvious reason for hacking into a game, however, is one I haven't even mentioned yet. What you're after is immortality. We've all used infinite lives pokes, as written by others – and occasionally myself – which enable us to see all the graphic glory that the impossible difficulty of many games restricts. After all, you've paid for the whole game!

These, then, are some of the reasons why anyone might want to break into a game. How, though, do you do it?

This is a topic much evaded by the computer press, and with good reason. There is no way in which the skill – if it is a skill – can be taught in isolation. Each program is as different as the programmer who wrote it, and each poke must be individually tailored to match the circumstances. Yet that doesn't mean there's no point in reading a series such as this one. After all, no book could teach you how to play football, but that doesn't mean that coaching manuals are useless. You're only ever going to be a real hacker if you get on with it yourself: but *AA* can help you get started!

Protect and survive

The first and most important barrier is the protection system. Such systems are designed by software companies specifically to restrict access to their product. They are arguably the most powerful programs available, and are



● 'Listen: you're either in – or you're not!' Insider dealer and corporate raider Gordon Gekko, as portrayed by Kirk's boy in *Wall Street*, lays it on the line

altered at regular intervals in an attempt to deter development of tape/disc copying utilities. Furthermore they are by necessity becoming more and more complex and lengthy, since like any security system once they've been cracked they are worse than useless. There's nothing more dangerous than imagining something is safe when it's not.



● Zaks' Programming the Z80 – has the Z80 instruction set

It's debatable whether there is any intention on the part of software houses to protect programs from the hacker. One argument is that if a game's protection system can be busted it is then relatively simple to pirate it. On the other hand, however, it might be said that pokes actually reduce the life span of a game and encourage sales of the next product. After all, what's stopping you from going out and buying the latest game (apart from povery, of course!)? Isn't it the fact that you have unfinished games lying around, that you're convinced you'll one day beat? Indeed, it's surprising there aren't more games with built-in cheats!

It has been frustrating, but at the same time fascinating to watch protection systems develop over the last three or four years. New methods and ideas are continually incorporated and enlarged upon in subsequent incarnations, making the modern protection some of the most fiendishly complex code imaginable. The introduction of the Multiface II, for instance, has forced protection writers to wipe their code out as it runs, to keep it from prying eyes.



● The Multiface II, which has spurred programmers on to make greater efforts to protect their code

Don't be disillusioned: protection writers may be good, but they're not above making mistakes. After all, a perfect protection should have been developed years ago. Their armour still has enough chinks for the experienced hacker to give them a good poke now and again!

The development of the 'Black Box Systems' allowing programs to be stopped and inspected has to a large extent reduced the old chicken and egg situation of 'if you can crack the protection you already know how to hack, and if you can't, then you've had it any way.' With them it is possible to get into the code direct without wading through the delights of a protection system.

But even those short of the necessary hardware or cash to buy it need not dispair, because although it is hardly possibble to publish tips on beating protection systems, the solutions to them all are in the cheat pages for those who have eyes to look. It is also worth remembering, while you are up to your neck in **Xors**, that the computer has to unravel the protection each time the program is loaded – and if a dumb old machine can do it, so can you.

Let's get cracking!

So what do you need? Well, there are two absolute necessities, and a preference. The necessities:

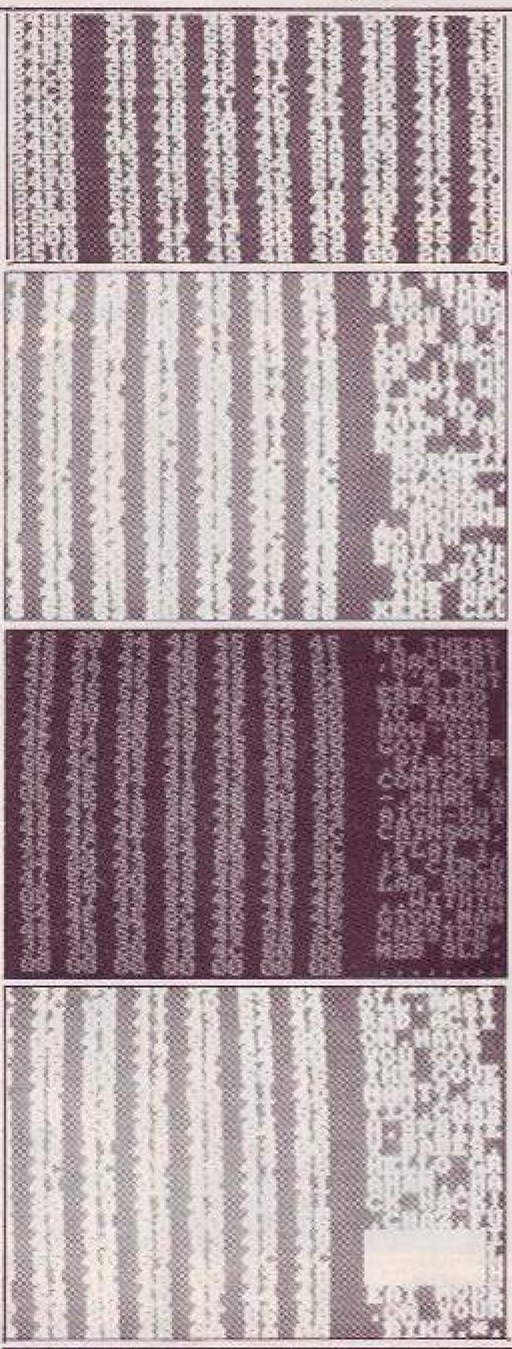
1) A list of the Z80 instruction set, ideally with explanations of their functions. You should be able to pick up one from the library. (A good source is *Programming with the ZX80* by Rodney Zaks, published by Sybex (1982); ISBN 0895880695. Computer Manuals ☎ 021 706 6000 have stocks. Trouble is, it's £23.95. Ouch, but worth it.) Your first inclination will be to panic at the amount of instructions, but don't: most hackers – and indeed programmers – get by knowing only a couple of dozen or so.

2) A Disassembler/Monitor. This is a program which replaces the Basic operating system in the computer and allows examination (albeit in Z80 mnemonics) and manipulation of a block of code. They tend to be rather awkward to use properly, but remain the only gateway to M/c code. (so get practising!).

I use *Dev-Pac*, but a good choice is *Maxam* (ROM version) or *The Insider* if you own a Multiface II and a disc-drive. Try to get one that uses the smallest possible space in the memory, since the program you want to inspect has to be in there as well.

The third thing you need, for preference, is for a copy of the CPC Firmware Manual. It makes life a lot easier, supplying documentation on your machine's innards. It is, however, an expensive volume, and has recently been allowed by Amsoft to go out of print. Try computer shops or, failing that, see if you can pick one up second hand.

As I've already suggested, one difficulty in learning a method of hacking is the variability of circumstances that crop up. One helpful feature of M/c code, however, is by virtue of its rigidity that it normally produces a tightly structured program. Hackers have all developed their their own individual way to follow the signposts, avoid the pitfalls, and read the 'footprints in the snow' inherent to this sort of environment. The best and only way to learn is by having a go yourself and employ some of the hints and tips experienced hackers have built up for themselves during their travels.' This is how you can learn to deal with specific problems, track down useful routines, find out sequences of numbers to look for and so on.



● A word to the wise – or at least, a message to the hacker, inserted by a miffed (and foul-mouthed) programmer. We've cut some of the choicer phrases!

You will find that techniques range from very simple on straightforward programs to subtle, devious and downright brutal on the more difficult ones. In next month's *Insider Trading* we'll get down to some hacking for ourselves. Keep tuned in! ●

Now it's *your* turn. There are over 38,000 of you out there, and even the briefest of flicks through *Cheat Mode* demonstrates that many of you are excellent hackers in your own right, with a technique for every occasion.

So how about sharing some of *your* secrets with those just starting out? If you need some help, perhaps we know the very thing to get you going, and, if you're just starting, perhaps you needn't re-invent the same old wheel as the rest of us have had to.

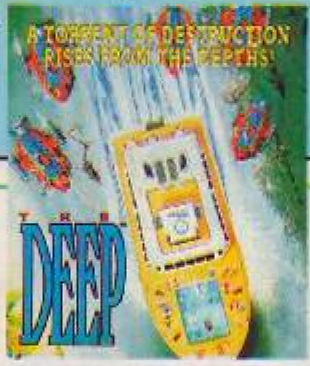
Write to: *Insider Trading, AA*, 4 Queen St, Bath BA1 1EJ

ACTION TEST

Stand aside! Move over! Make way! It's His Wickedness TRENTON WEBB!

A different look to *Action Test* this month, with a massive soccer special beginning on page 37 and featuring reviews of *Emlyn Hughes* (p.38), *Gary Lineker* (p.41), *Streetgang Soccer* (p.43) and the long and eagerly awaited *Microprose Soccer* (p.48).

At stake is not only the *Mastergame* award, but the *AA Cup*, previously held by Ocean's mighty *Matchday II*. Move over *Matchday*, your time is up! But that's not all this month, for we've squeezed in reviews of *The Deep* (this page), *Obliterator* (overleaf) and *Run the Gauntlet* (p.50). *LET'S GO!*



THE DEEP

US Gold ● £9.95 cass, £14.95 disk joystick/keys

There you are bobbing along on the beautiful briney blue sea, making like Miami Vice, when what happens? A submarine decides to take a pot shot at you with a heat-seeking missile. Shaken but not stirred you check the emergency supplies: a life jacket, flares (you little trendy!), the Observer book of fish spotting and, oh yes, a crate of depth charges. What a stroke of luck!



● Mines: a large one

The only thing to do is start hauling them over the side, and kick some serious sub rudder! These depth charges can be made to sink faster or slower, to catch out those sneaky ships which have some strange aversion to high explosives and salt water. These, though, are the only weapons you get, and only a limited number at that, so prudence is required when using them. So go get Prudence and off we jolly well go.

You are sailing over what looks like Egypt in the monsoon season, when you see subs starting to sail around beneath you. There are three types; nice bright red ones, camouflaged ones (why?) and big silver ones that look like jelly fish with a weight problem. The first two are no hassle, apart from the fact that they try to launch mines at you. The Jelly-Fish are really nasty as they chase you, even on the surface!

The nice submariners do their best to help you out of this situation by sending up supply buoys when you send them to Davy Jones's's *(that's enough 's's's' – ed.)* Locker. You have to race along and collect the marker flags, which alerts the coast guard to your predicament and along comes his chopper to give a helping hand. Aid comes in the form of extra weapons, sometimes a smart bomb (no scruffy bombs around here), and sometimes a guided torpedo, or hydrofoil power to help you sail from side to side of the screen much faster.

That's about it really. There's no gameplay to speak of, all there is to do is to use your limited arsenal (sorry, the football special is getting to me!) to waste as many subs as possible. It is however a strangely enjoyable game to play, especially as you develop techniques for catching even the sneakiest subs with your charges.

The graphics are limited by the subject matter – after all, what can you do with a boat to make it look sexy? (Don't answer that.) But the sprites are detailed and there's good use of colour.

The game itself seems a bit of a throwback to earlier styles, but this doesn't stop it from being fun. Controls are simple to use and objectives clear. Only the guided torpedo is awkward, and what's the point of having a special weapon that makes you more likely to get killed?

If you fancy a life on the ocean (er, I mean US Gold) wave, and some mindless fun you could do a lot worse than than taking a dip in *The Deep*. **TW**

SECOND OPINION

"Looks simple and is simple: The Deep is not a game for 'sims' fans, it's not a game for any fans really. There is just too little here to interest the serious games player for more than five minutes." SC

GREEN SCREEN

a beautiful pea-green boat – but just about everything is the same colour too!

Whale meat again

The Deep was the none too original title of a novel by Peter Benchley following his world-wide bestseller *Jaws*. The book, which was subsequently filmed, featured a notably daft plot that involved a giant eel, wrecked ships and morphine. It featured Robert Shaw doing his over the top crusty old seadog bit. *The Deep* was worth watching, some would say, if at all, only for the first ten minutes which feature Ms Jacqueline Bisset in a wet t-shirt.

FIRST DAY TARGET SCORE

The Verdict

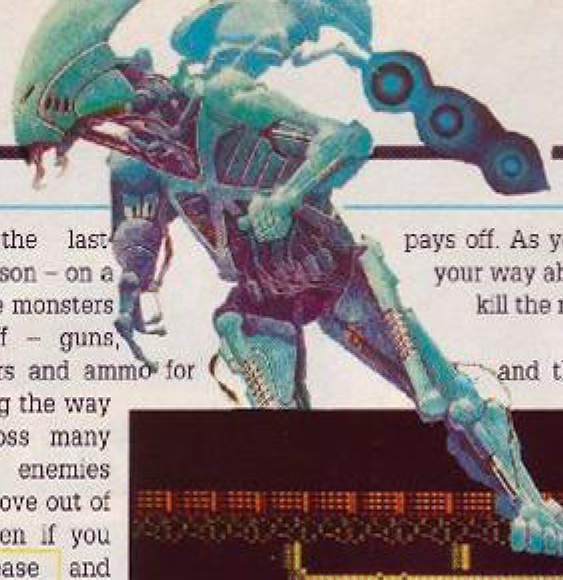
GRAPHICS 71%
- Good little sprites.
- Not much variety.

SONICS 54%
- Just explosions and the occasional helicopter sound.

GRAB FACTOR 63%
- Easily picked up.

STAYING POWER 55%
- Easily put down, too.
- Reasonable blow-em-up.

AA RATING 62%
- Fun – but limited life expectancy.



OBLITERATOR

Psygnosis ● £9.99 cass, £14.99 disk joystick/keys

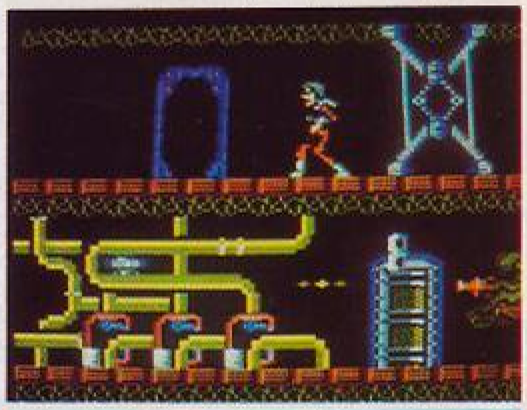
Oh dear, I was afraid this would happen. It's my personal communicator again. The Federation Council of Elders, no doubt. And guess what? Yup, a Nucleonic interstellar shuttle is on its way to collect me. Oh goodie. I can scarcely contain my excitement. Ever since the star fleet disappeared I knew it could only be a matter of time, and frankly I haven't slept too well for the past eight years. It took them three months to put me back together again last time, and they never did find some of the bits. Playing the piano sure ain't the same when you've only got seven fingers. And I have a hunch some of those are on the wrong knuckles. The hunch is a bit of nuisance too.

SECOND OPINION

"The peculiar icon sysem may work fine on 16-bit machines where you can use a mouse, but it doesn't feel too comfortable on the CPC. Still, I really liked the scenario. Huge spaceship to explore, which should keep you busy for hours – if you can maintain the interest.
Well hard players only, I fear."
TW

GREEN SCREEN
dark but fine

I'm an Obliterator, by the way, in case you're wondering. The last surviving member of the most highly trained elite fighting force ever assembled, I am. Recruited at birth – they skipped the bit about signing papers when I puked on them – intensively trained and educated from childhood, I have a genetically enhanced body to speed up my reflexes

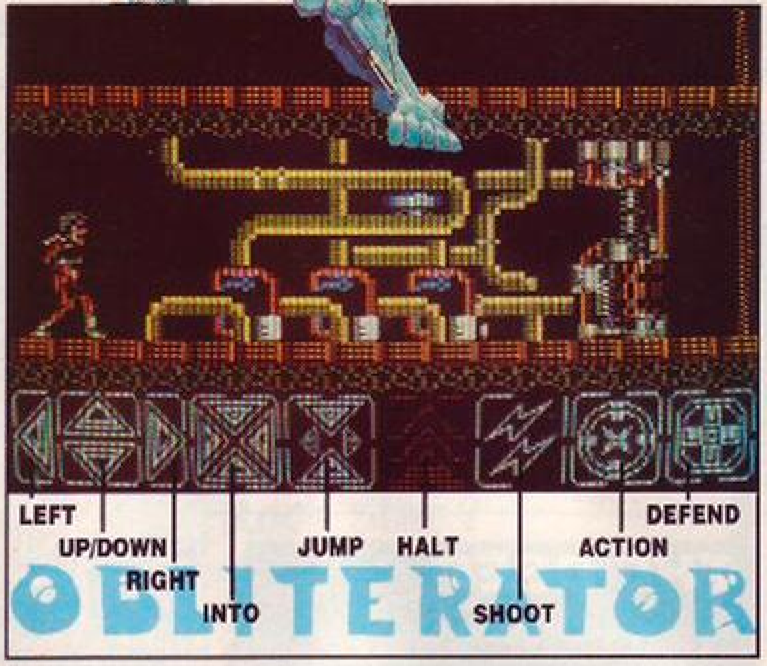


● The last Obliterator earns his keep

(though you'd never guess it to look at me), sharpen my senses and increase strength and agility. Even so, I'm still scared out of my wits...

Obliterator loads with you somewhere at the rear of the alien space craft. The action takes place on a flick screen playing area, with you – the last Obliterator in person – on a mission to kill the monsters and collect stuff – guns, bazookas, blasters and ammo for all of these. Along the way you'll come across many bloody-minded enemies who just won't move out of the way, not even if you say pretty please and promise them a copy of *AA*1.

As you begin the game the thing you notice first is the peculiar controls. Using a joystick, for instance, left and right do what you'd expect them to do; but up and down don't. Across the bottom of the screen there's a row of eight icons that represent your chosen activity. Push up or down on the joystick and you start to flip through and highlight each of these icons in turn. So stop at the 'shoot' icon, for instance, and return to regular left and right movement of the joystick. Now, when you press fire the chosen activity occurs – in this case, stop and fire weapon. The system is hardly 'intuitive,' and at times appears sluggish, taking a couple or three clicks before you switch icons. On the other hand, you're unlikely to go rushing past the icon you're really after.



The same odd system was used, you may recall, in Psygnosis' *Barbarian* – not the Palace/Maria Whitaker effort, the other one. It takes some getting used to, there's no denying, but after a while you gain the knack. It gives you a range of activities you couldn't get from the usual arrangement.

The set up is not the most logical: bullets, for intance, don't follow you from one screen to another. But that is balanced by the fact that, if you leave a screen before your own bullet hits home you don't get a result from it.

Even less true-to-life is what happens if you fire just before a monster shoots back. When your bullet hits it, its own shot disappears!

One or two useful elementary tips: a good icon to go for first is the 'defend' icon, which momentarily makes you immune to enemy fire. If you hold down the fire button as you run you can execute a neat forward roll that may – or may not! – help you evade bullets. Certainly it allows you to duck bullets and collide with the son-of-an-alien that's shooting them. It's a painful way to kill the thing, and costs you dearly in terms of shield, but it works!

Fortunately you don't die after three hits – which is just as well – though damage accumulates. And when you recover after a couple of seconds frying you can get to the door, teleporter, ammo or whatever it was the wee beastie was protecting. At least at the beginning this suicidal kamikaze mentality actually pays off. As you improve and get to know your way about you'll find better ways to kill the nasties.

Graphics aren't stunning, and the background is a kind of dark background, minimalist girder-and-floors/ceilings affair interspersed with occasional 'props.'

There's a haunting tune playing throughout that somehow reminds me of that bit in *Alien* when John Hurt makes the unfortunate mistake of leaning over to take a closer look – though it doesn't sound anything like that at all. Atmospheric, but limited.

Obliterator is going to keep you occupied for some considerable time. There's a lot to explore, and it takes ages to learn how to do things. (To be more accurate, it took *me* ages to learn how to do things: if you're a dead hard gamester who finds *Obliterator* just too easy to be worth playing, well good luck to you pal, but remember that not everyone's as tough as you.) SC

The Verdict

GRAPHICS **67%**
- ☐ Chunky and fairly smooth large sprites.
- ■ Dark and blocky at times.

SONICS **64%**
- ☐ Odd, haunting tune plays constantly.
- ■ But other effects aren't too hot.

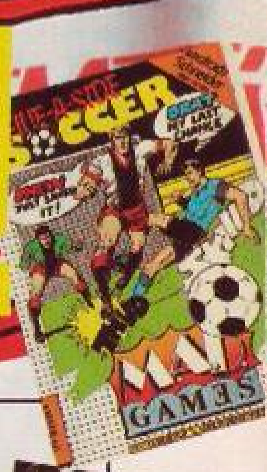
GRAB FACTOR **47%**
- ■ The odd controls are a big turn-off.

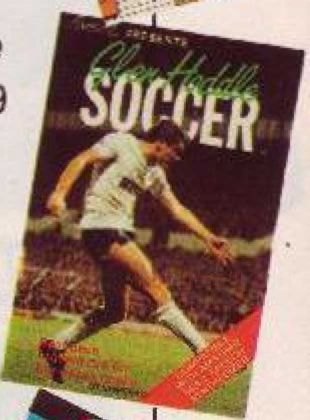
STAYING POWER ... **66%**
- ☐ You'll need to give it time.
- ■ Run, shoot, find, pick up, explore: a little repetitive?

AA RATING **59%**

- ■ Not as much fun as *Barbarian*, and no more 'meat' to it.

Football crazy!





For reasons no-one round here seems able to explain, there's been a dramatic resurgence of interest all of a sudden in the football simulator.

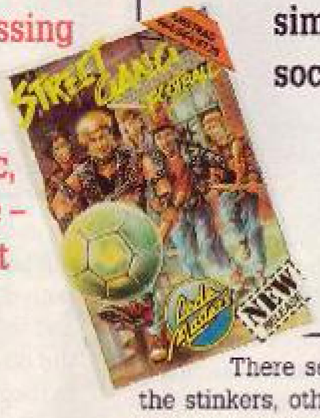
In this massive special souvenir cut-out-'n'-throw-away section TRENTON WEBB, talented left back (in the dressing room), checks out all the latest challengers – among them efforts from Audiogenic, Codemasters and Microprose – and questions the notion that there's no such thing as an original sim.

In this special section:

Which one wins the *AA* Cup *and* Mastergame too?

Look out too for the *AA* all-time league table of soccer simulations (p.45), a report on a rather extraordinary soccer game (p. 40), and a *special competition* (p47)!

It's all in your super soccer soaraway *AA!*





Just what is it about soccer that so many software houses find irresistible? Obviously it's an enormously popular pastime – but so's fishing, and there haven't been shoals of *Mackerel Fishing Simulators*. The real reason soccer scores, of course, is that it has exactly the elements that go to make up a good computer game: competition; restricted area; regular sized players that can easily be represented by sprites; and a ball. Add to that the fact that most people claim to be supporters of one team or another (not for long, though – the government will soon fix that) and you have the perfect recipe, a licence to print money. Couldn't be easier.

But what's so remarkable about the history of soccer sims on the CPC is not that there's been many a mediocre game. That's no more than you'd expect. What really surprises is just how many fit into the two extreme categories of 'all time Faves' and total dogs. The successes have come about when the combination of enthusiasm and skill has been harnessed by a thorough and talented software development manager – the *Matchday* phenomenon demonstrates this neatly.

Great soccer quotes of our time 1

"Whoever wins today will win the championship no matter who wins"

– Denis Law



There seems no ready explanation for the stinkers, other than the blatant cheek and sheer cynicism of some houses in releasing games they expect to sell, simply because they're about football. One only has to think of efforts such as Mseven's *Indoor Soccer* or *Glen Hoddle's Soccer* from Amsoft to know that one is not dealing here with top quality software.

Value for money

Perhaps the best value soccer pack ever released was the Codemasters Christmas smash *Four Soccer Sims*. Not only did this give you a solid representation of the game in its classic form, it also gave you *three* other soccer based games *(hence the name, I suppose – Sarky Ed.)* for a tenner. Admittedly the Soccer Skills section was slightly less exciting than an episode of Neighbours – but then *some* people like that too, I'm told! The best variant, Street Soccer, had great moments where the ball was lost and your mate fell into a crumpled heap after a late tackle. Any later and you'd have missed him altogether. Graham Roberts eat your opponent's heart out.

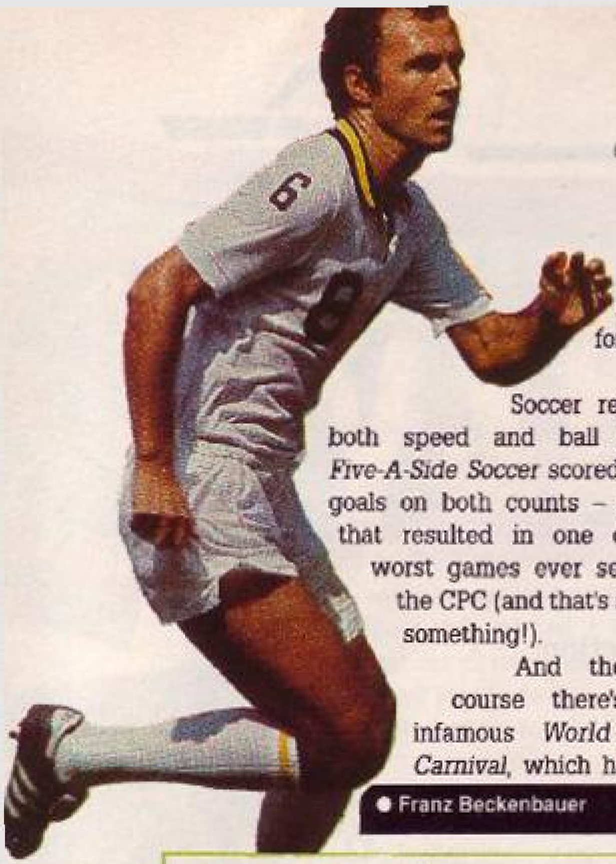
Erewigo dear, oh dear, oh dear...

Now let's be perfectly honest, frank and Brian with each other, dear reader, and admit that most games do have one or two dodgy points, such as less than startling graphics or sound effects, over-fussy gameplay, lack of responsiveness to joystick control or whatever.

But Mastertronic's *Five-a-side Soccer* appeared to have them all. It did for football what Vinnie Jones does for ballet dancing. Sound is limited to 'plink' and sprites Xorclash to make lovely patterns. Players charge around completely oblivious to commands with all the sheer discipline and precision of an Aston Villa attack. Hilarious – for five and half seconds, when you start to realise what you've shelled out all that



● The brilliant Karl-Heinz Rummenigge



● Franz Beckenbauer

money for.

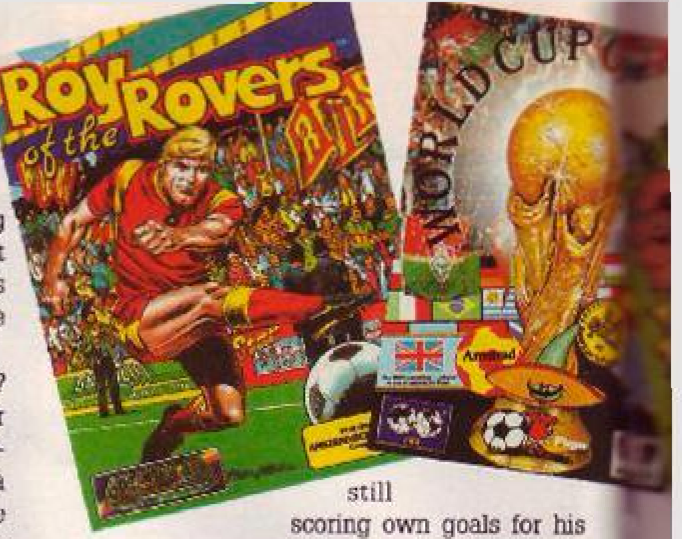
Soccer requires both speed and ball skills: *Five-A-Side Soccer* scored own goals on both counts – a feat that resulted in one of the worst games ever seen on the CPC (and that's saying something!).

And then of course there's the infamous *World Cup Carnival*, which has the dubious honour of being the lowest scoring game ever reviewed by *AA*. And since that was the big zero, zilch, nothing or nil it's unlikely that it will ever lose that unwelcome tag.

Just why did *Carnival* do so poorly? Perhaps it was the completely duff visuals, or the jerky scrolling, or even the repetitive gameplay. More likely it was because it was such a blatant copy of an earlier and cheaper game *(World Cup)* with few enhancements other than a colourful box! Not only that, but it completely missed the World Cup boat. Indeed England's chances – never very big in the first place – had already bit the dust by the time *AA* got its hot and sweaty hands on a copy

Foul play

Many, many years ago, when Steve Carey was still scoring own goals for his college team, there was a World Cup. This was 1986 – real dawn of time stuff. During the tournament, older readers may recall, Mrs Maradona's boy scored a handy goal against England. It wasn't so much that he handled it, it was the way he pinched the lace from the ball that really annoyed us.



To be honest Shilts, Robbo and the rest of

EMLYN HUGHES INTERNATIONAL SOCCER

Audiogenic ● £9.95 cass, £14.95 disk joystick

Jones charges down the right wing, plays the ball past a defender and into the path of Green, the fastest man on the pitch. He steams into the 18 yard box, chips the keeper and ITS A GOAL! The crowd goes crazy as Green charges to the side line waving his arms in celebration. England have pulled a goal back and are now only 14 behind.

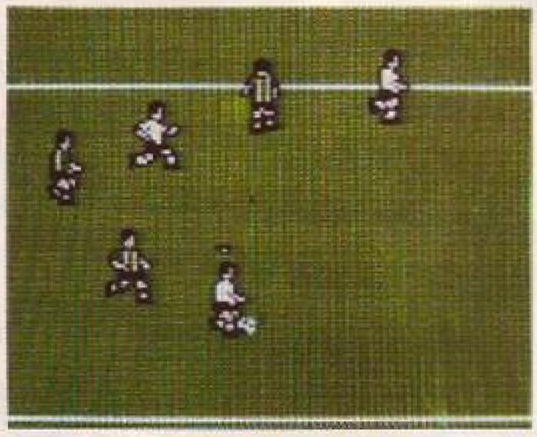
This is football, and this is what you get when you play *Emlyn Hughes International Soccer*. Everything but the smell of the turf is there: controllable trick shots, fast paced dribbling *(yeuchh!)* and even a match commentary to tell you which players are on the ball. *Emlyn* has the lot: you can chip, volley, head or backheel the ball. And if you want to win you'd better master every one of these skills and more besides.



To say that this is the most complete soccer sim yet to make its way onto a CPC is an understatement. It's *Matchday* and *Football Manager* rolled into one and leagues better than both.

The Audiogenic side have been in training a long time for this game and it really does show. The basic premise is an international football team on the rounds for a season, league and even a cup competition. You not only have to play the matches but you also have to manage the team as fitness and varying skill levels start to tell on performance.

The options for whom and how to play are all kept in four pulldown menus, which present themselves after loading. The Options menu allows you to choose the limits of play.



● Move over *Matchday*, here comes the king!

A choice of colours is available, as are the displays of team strengths and positions in the various leagues and competitions. Most useful of all is the Games menu which gives you the choice of who to play for, what to play for, and which players in your team are to play for you.

The actions on the field are what count though, and this is precisely where *Emlyn* scores. The view of the pitch is from the top row of the side stands. None of this overhead nonsense where all that's visible is the hair, a nose and the ball. Here you see their little legs as they charge around and their boots sticking out as they slide tackle. This view gives greater control as you can see the height of the ball, so you know when to make strikers use their heads or goalies dive and jump. You can also see more of the pitch this way and so you can actually pass to people.

Your player is indicated by a small black arrow floating above his head (if you want to get ahead get a cursor!). When the ball changes hands – or feet as the case may be – the cursor changes automatically to the nearest of your players to the ball. Alternatively you can control this yourself by selecting from the options menu, but this can prove confusing during goal mouth scrambles.

> **Great soccer quotes of our time 2**
>
> 'Well clearly Graeme it all went according to plan – what was the plan exactly?'
>
> **– Elton 'Prat' Wellsby**
>
> 

As the game begins you are in possession of the ball, but you won't be for long if you run straight ahead, as the opposition charge in and barge you off the ball. You've got to swerve or play the ball on if you want to make it to the goal. As your man runs, in swoop defenders, and if he's got pace and outruns them make a note of the name. Then you can pick him again, and the snail-speed types can be dropped. You can side step people, turn on the ball and encourage defenders to go away with the dip of a shoulder. It's a physical sport and injuries can only be expected (if you're on the other team!). It's not unknown for a tackle to result in a crumpled player and a free kick.

Nearing the goal mouth, and it's time to choose your shot. Will you try and lob one over the head of the keeper, get in close and volley it, dribble it across the line or deliver a cross for the head of a team mate? All are difficult, but the tougher the shot the more likely you are to wrong foot the goalkeeper. If the



● Just like the real thing

goal goes in there is a roar from the crowd, and off races the scoring player to the touch line to share his moment of glory with the crowd, punching the air as he goes.

When you are defending, life becomes a little more fraught. Teams on higher skill levels dribble with the flair of Best, shoot with the power of a Bobby Charlton and use their head like a Maradona (?). Nicking the ball



the lads were completely outclassed anyway, but somehow going out to a cheat made it feel better, just as if we could really have beaten them had they only played like sports. Argentina went on to win the final against West Germany 3-2, while our boys came home, tails tucked between legs, to the usual ranting and raving from the loony tabloids.

As a nation of ladies and gents with nothing at all against those lovely, cuddly Argentinians we naturally forgave Madonna. Or at least that's how it appeared until Grand Slam released *Peter Shilton's Handball Maradona*, positively the worst taste title for a football game ever – to date. It cashed in fairly blatantly on the jingoistic anti-Argentinian tabloid mania of the time.

Great soccer quotes of our time 3

"It's a Renaissance – or, put more simply, some you win, some you lose"

– Des 'Smoothiechops' Lynam

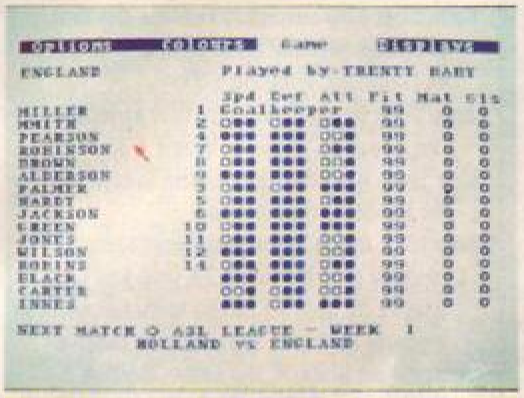


And as you'd expect of a game exploiting current events, it was hastily adapted and shows every sign of being knocked together over a couple of weekends, with scant regard for incidentals such as graphic, sonics, gameplay... Shilts, what on earth possessed you? (Answer: easy dosh.)

Wild about Rovers

The most original soccer sim of all time is undoubtedly *Roy of the Rovers*, which had the novel idea of introducing a sub-game that had to be played before you even got your boots muddy. The old straight-laced gentleman player (and *I do mean old*) had to rescue his kidnapped team mates, would you believe, a motif that fitted well with his many exploits in the comics. One question remains: when, oh when, oh when will we see *Billy The Fish* on our screens?

In the final reckoning, though, it's the football that counts, Brian, and aside from the gimmicks there are only two contenders:



● Fun fun fun all the way with *Emlyn*

requires a sliding tackle, and often the only safe option is to force it into touch. Throw ins and corners have to be watched for, as your cursored man has a tendency to wander towards the ball leaving his opposite number unmarked, which spells big trouble goal wise.

The other side of *Emlyn's* coin is the strategy section. Here you are able to see the make up of your team, as well as that of all the opposition. You can change the line up, alter the abilties of players and even design your own schedule by playing a series of friendly matches for practice. Naturally all this strutting around Europe gets the better of some of the lads, and as fitness begins to flag they have to be substituted for a fresher pair of legs.

Basically *Emlyn Hughe's International Soccer* has very few weaknesses. Only a very faint lack of pace inhibits the atmosphere. However, this does not detract from the incredibly addictive appeal the game has. Play against a low skill team and celebrate as you score your tenth goal with incredible flair. Pick on a harder team level and cheer with jubilation, but cry in despair as the goals you score are equalled by the computer's even better play. You can't help but become involved even if you're watching as shots rattle the woodwork and side netting.

There's only thing left to do when you feel you've mastered the game, and that is to play a season (up to 60 matches!). This is the true test, and with the save and load facilities, the game's staying power is assured. The more you play the more skill you develop, and the more technique you possess the more the game comes to life. This is truly the soccer sim against which all other past, present and future efforts must be measured. Move over *Matchday II*, here comes *Emlyn!*

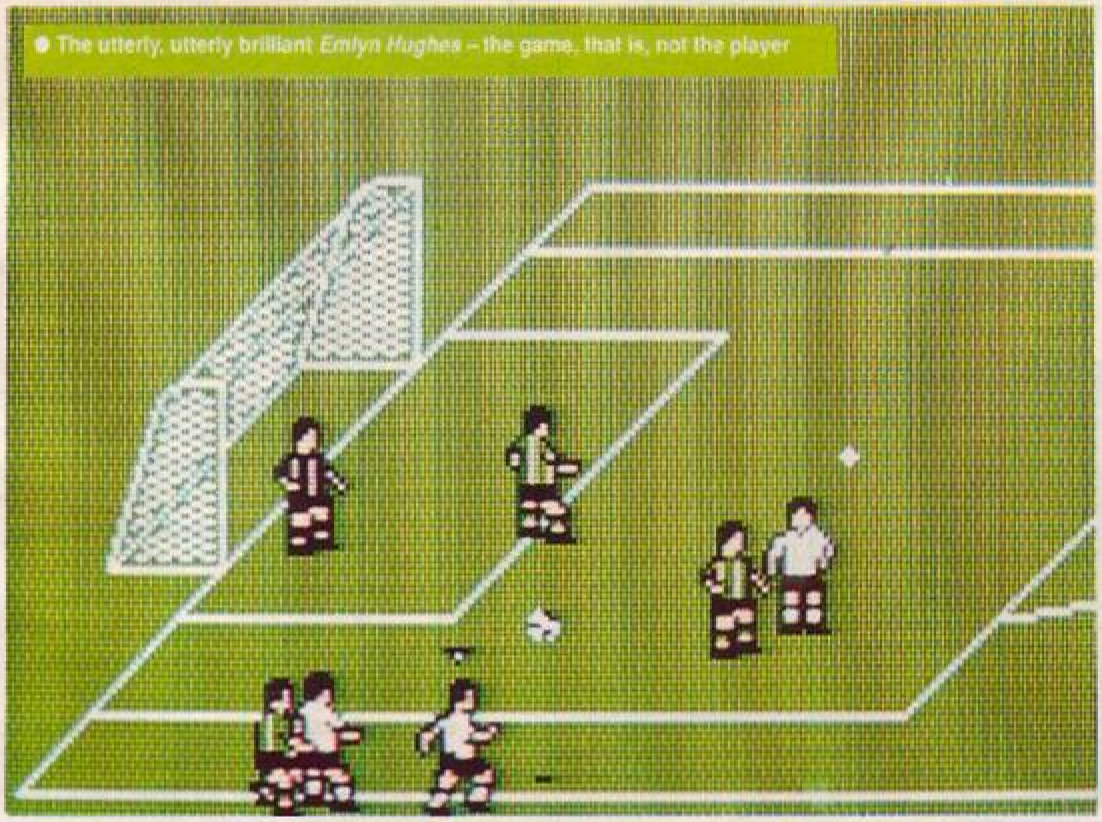
TW

SECOND OPINION

"Here I sit, munching my hat. Once upon a time I boldly stated that Matchday II would never be equalled, let alone bettered. And now it's history. You ain't played footie on your CPC till you've mastered Emlyn!" SC

GREEN SCREEN

absolutely no worries



● The utterly, utterly brilliant *Emlyn Hughes* – the game, that is, not the player

FIRST DAY TARGET SCORE

score on Level 3

The Verdict

GRAPHICS 91%
- Great player sprites.
- Smooth movers, great control!

SONICS 85%
- All the obligatory cheers and whistles are here as you'd expect.
- Still no new ideas for soccer sounds?

GRAB FACTOR 88%
- Level 1 is easy enough to hook you straight away.
- You feel an instant need to win.

STAYING POWER .. 94%
- Ten levels of difficulty are enough for anyone.
- Season feature guarantees long-term interest.

AA RATING 93%
- Move over *Matchday II*, your time is up!

Not a lot of people know that

(and even fewer care)

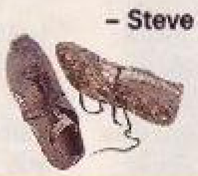
- From earliest times, when Aztecs and Vikings used to kick disembodied heads and inflated animal organs around the car-park, to more recent times when the Philistines and Barbarians beat Liverpool in the '88 FA Cup Final (ooh, controversial), football has had a fascinating history.
- The first true international set the tone for England's international career, when in 1872 they were beaten by Scotland.
- No British team took part in the first World Cup. We stayed at home and sulked.
- Uruguay won, beating Argentina 4-2, and got attacked by a stone-throwing mob.
- Understandably, they stayed away in World Cup '34, which therefore began without the defending nation! Italy, the host nation, won in their absence, which pleased Mussolini no end.
- Italy won in 1938, too. The next World Cup was not held until 1950 – so Italy held onto it for 16 years! (You could probably win a few bets on that one.)



Matchdays I & II. The reason is simple: realism. You could almost swear you were in the stands, if swearing weren't a booking offence – and you don't get your view obscured by inflatable bananas, even if they are 'putting back the fun in football,' gawd 'elp us.

Sprite movement and ball behaviour are just like the real thing. So it's not that fast, granted, but then neither is Italian soccer, and they won the World Cup! And since there's a wide view of the field you can play the game as it's meant to be played, actually passing to people rather than just punting the ball about and trusting to luck and a prevailing wind (but that's enough about Wimbledon).

> **Great soccer quotes of our time 4**
>
> 'At the end of the day, it's all about what's on the shelf at the end of the year'
>
> **– Steve Coppell**



Brian Clough's Boxing

The other side of the coin are the strategy games, where you play the part of the manager (unless you're Brian Clough, in which case it's *Street Fighter*).

Curiously the best, as in the simulation stakes, was one of the first. *Football Manager* and son aren't the most exciting games in history, but the exercise for the old grey cells is great fun, if infuriating. You could be as sick as parrot of Sims and still have plenty of jollies picking teams, biting your finger nails off waiting as games unfold. Played seriously the reward is that of confidence in having outwitted the programmer; alternatively you could always play for kicks and throw the whole footie establishment into chaos buying and selling players for wholly ridiculous prices. It's fairly obvious where El Telephone Number Venables and Ron Think of a Number Atkinson acquired their management skills.

Play up and play the game

Soccer sims have been evolving along two different paths; the overhead boys and the side view crew. Both have merit. The stand view is realistic and panoramic, while the bird's eye/Goodyear blimp angle gives you a better chance to see and control what your player

Some football firsts

- February 1930: First cup tie played under artificial light
- July 1930: Uruguay win first World Cup, beating Argentina 4-2 in front of 90,000 spectators. No British teams take part in the competition
- April 1933: Numbered shirts for the first time – FA Cup Final. Everton (who won 3-0) go from 1 to 11, while Manchester City opt to go 'backwards' from the goalkeeper's 22 to 12
- April 1938: The Baptist Union condemns the football pools as 'injurious to moral sense and healthy sport'
- November 1955: The first floodlit international, at Wembley, between England and Spain
- July 1950: World Cup first round: England 0 USA 1
- November 1953: Hungary become the first overseas national team to defeat England at Wembley, winning 6-3
- June 1956: Real Madrid win first European Cup, beating Stade de Reims 4-3
- May 1960: Real Madrid win the European Cup for the fifth time in a row
- May 1961: Spurs become the first team this century to achieve the FA Cup and League double (in goal for losing team Leicester is a young man just beginning to make a name for himself. His name: Gordon Banks)
- May 1965: Liverpool win FA Cup for the first time
- August 1965: Charton Athletic's Keith Peacock becomes the first substitute to appear in the Football League
- June 1969: Pele scores his 1,000th goal
- February 1979: Trevor Francis becomes Britain's first million pound footballer, signing for Clough's Nottingham Forest
- May 1982: Barcelona pay £5,000,000 for one Diego Maradona
- July 1984: Naples pay £1,000,000 for the same Diego Maradona
- June 1985: As a result of the Heysel Stadium riots in which 41 fans died, UEFA bans English clubs from playing in Europe 'indefinitely'

● Extracted from the *Chronicle of the 20th Century*, published by Longman Chronicle at £29.95

If EA can't handle 'em, send for *AA!*

The more observant among you (and judging by the mail we get on those rare occasions *(ahem)* when we foul up, that's most of you!) may have noticed several sly messages from the *AA* boys addressed to the Microprose mob.

It all began when dynamic, wacky Microprose Public Relations person Martin 'Tiger' Moth, 23, mentioned that he was a sporty type, and would we perhaps be interested in a game sometime? Would we?! Is the Pope a Catholic?

And so the plan was formed. Playing in goal was *AA* art editor Ollie 'The Cat' Alderton, while up front there was Steve Carey, owner of the whitest legs in the business. Others involved came from Future mags *ACE* and *New Computer Express*.

There was a very special guest star, too: Richard Monteiro, late lamented Technical Editor of this parish. If he'd hung around the opposition goal for much longer he'd have been accused of eloping with their goalie.

The Microprose team was an intensively trained and highly motivated crack team led by old Martian Mouth in person.

Highlight of the game, perhaps, was when Colin Campbell, news editor on *New Computer Express*, scored what may rank as the best own goal of the season. Even Ollie didn't stand a chance.

In the end the *AA* team scraped home by the narrowest of margins, 13-3. One dejected Microproser was heard to say, 'Perhaps we should stick to beating Electronic Arts at wargames.'

Carey somehow fluked six of the goals (and yes, they were *all* for the *AA* team!).

Microprose have not yet confirmed availability for a rematch.

● The Future boys: gave Microprose a lesson they won't forget in a hurry



does.

The *Matchday* style has the edge. Soccer is all about possession and passing, and how can you do that when you can't see the players you want to pass to or the goal you're aiming at?

Then there's the problem of player control. Joystick control is far from ideal but it's better than keys. There are limitations – not everyone has a joystick splitter – but it's just not cricket, Harry, to play a mate at a footie sim, when one of you has to try and get flowing motion and smooth control out of a keypad! Not only is it impractical and unfair, but it's also a cop-out. (Having said that, I know two or three gamesters who claim they prefer the keyboard to the joystick any day of the week.)

Great soccer quotes of our time 5

'Football's football; if that weren't the case it wouldn't be the game that it is'



– Garth Crooks

What other qualities make a sim special? Speed, graphic quality, variable skill levels all go together to enhance the overall package. Most importantly though the game must be competitive and fun. *World Cup Carnival* fails as do so many because to score all you have to do is get the ball and run, regardless of defenders, straight at the goal, scoring as you cross the line. That may be a fine tactic for the likes of John Barnes, as he so brilliantly demonstrated against Brazil (a goal he's never really recovered from), but it's not really a go project for the rest of us mere footballing mortals.

GARY LINEKER'S HOT-SHOT!

Gremlin ● £9.99 cass, £14.99 disk joystick/keys

Once upon a time in a land far, far away a personable young man by the name of Gary Lineker packed his belongings in his red spotted handkerchief and bravely set out to seek his fortune in Barcelona, where streets are paved with goals.

The fairy tale turned into a horror story, however, when Gazza failed to score for his new club. Tired of the jet-setting life, he got completely pixellated and ran away to a CPC at Gremlin HQ. First fruits was *Gary Lineker's Super Star Soccer (AA29*, 66%), rapidly succeeded by *Gary Lineker's Super Skills (AA40*, 64%). Now comes the conclusion to the trilogy.

AA RAVE! RAVE!

To say nothing at all's different about *Hot-Shot* may be unkind, but it's true. The game is viewed from directly overhead, with an arrow to indicate the player nearest the ball. Yawn, yawn, there's been countless similar games. So why, you're asking at the top of your voice, review it and why give it a Rave? Because it's done with a deft precision that gives the game a quality lacking in his previous outings, that's why. So shut up and listen for a minute, will you?

You begin by choosing your team, and then the players dutifully don the appropriate national strip (yellow for brilliant Brazil, green for the idiosyncratic Irish, or white for wimpish England). There's a one/two player option, as is the various time limits and the tournament standings. After this it's into the dressing room to get changed and now it's time for the FOOOOOTBAAAALLLAAAHHHH!

You really appreciate the difference when you get on to the pitch: you view your immediate area, as well as a diagram of the pitch outline showing your relative position. This is useful when you get the ball, put your head down and charge towards the opposition's goal, because it helps a little if you know where to run. You are also given a powermeter to show how hard you are about to wellie the ball when you get there.

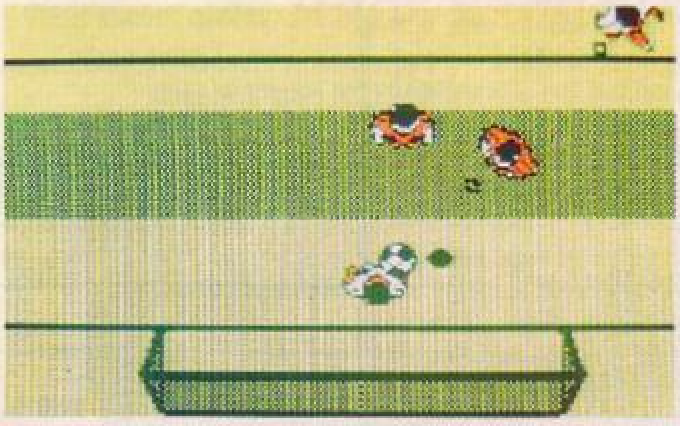
This is all very run of the mill stuff for a footie sim, but what makes *Hot-Shot* so different is its speed. Everyone on the pitch runs around like a thing possessed; pitch scrolling is smooth; the ball flies for absolutely miles (it must be an altitude tourney, like Mexico or the moon). Your guys move at quite a lick, as unfortunately do theirs, and can cover the length of the pitch before you can say 'Arnold'.

Another touch that puts the game at the top of the table is the professional foul. Now this is not something which is generally encouraged (except at Glasgow Rangers), but your player has a little square in front of his foot which is where, if he were in control of the ball, he would kick. By lining up your square and your opponent's ankles you can bring him down to earth with a bump. So they get a free kick, but you don't half feel good about it.

On the minus side the screen is tiny, and the stripey grass does have a hypnotic effect when you are chasing the ball end to end. Occasionally players get stuck in a glich, which is irritating, if only temporarily. These are worthy sacrifices for a game that actually features football at a realistic, almost exaggerated pace.

Sonically the game is limited with the usual ref's whistling and the crowd roar when there's a goal, although there is a jolly (annoying?) little tune during the non-football sequences. But overall the balance of the game is right, as it places good fun, fast and furious football first. Play it with a friend and you will have aching wrists and fingers before long, as the pace of the game demands constant attention and action. Gremlin are obviously huge football fans (can't think why, coming from Birmingham – the only team not to score during the reign of a pope) and they have turned out a game that features many of the game's entertaining aspects. Most importantly it makes the transition from match to monitor painless and well worth the effort.

TW



● Aw shoot!

SECOND OPINION

"Gazza hasn't had a great time of it lately, what with one thing and another, and perhaps he'd appreciate any contributions you could make via Gremlin to his retirement fund. And do yourself a favour too!" SC

GREEN SCREEN

the grass is just as green

FIRST DAY TARGET SCORE

beat the computer in a ten minute match

The Verdict

GRAPHICS **83%**

- ☐ High speed slick movers.
- ■ Very small playing screen.

SONICS **66%**

- ☐ Good toon and all the usual effects.

GRAB FACTOR **77%**

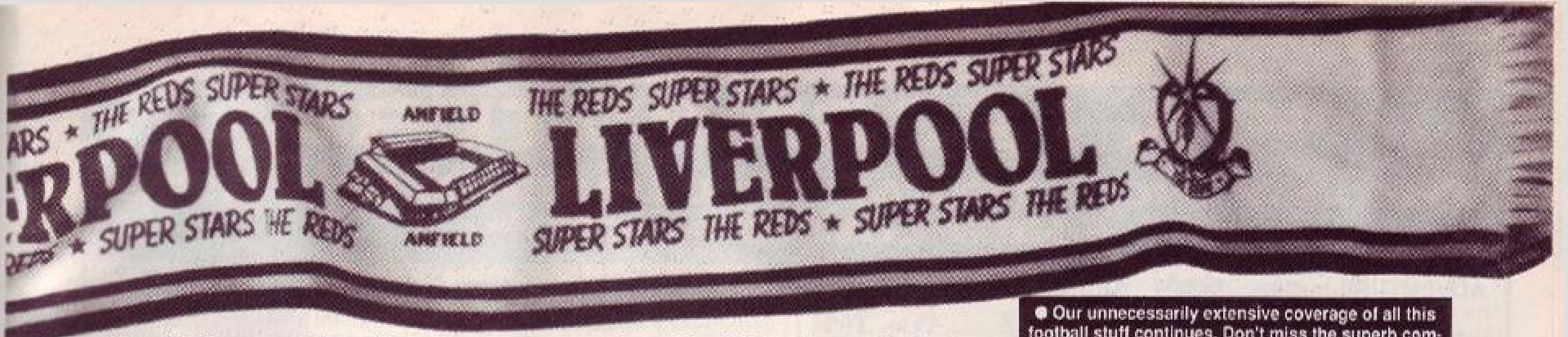
- ☐ High speed play makes it an instant winner.
- ■ Hard to score against computer goalies.

STAYING POWER ... **73%**

- ☐ Two player game a big feature.
- ■ One player option appeal soon fades.

AA RATING 81%

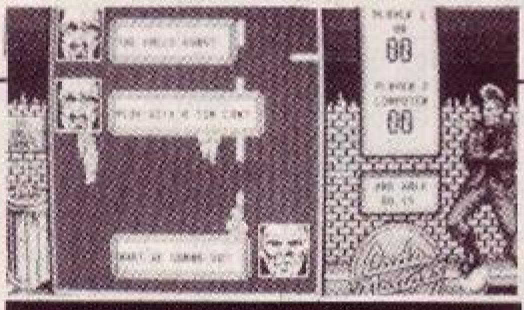
- ☐ Serious footie freaks will love it!



11-A-Side Soccer on *4 Soccer Sims* is nearer the mark with a straight run of more than ten yards being punished with a tackle, and the ability to spin 180 degrees instantly and retain possession of the ball is not on – frustrating but realistic.

But then, as all the commentators are fond of pointing out, football's a funny old game. ●

● Our unnecessarily extensive coverage of all this football stuff continues. Don't miss the superb competition on p.47, and the in-depth review of the long-awaited *Microprose Soccer* on p.48!



● A free and frank exchange of views concerning the finer points of the offside law

STREETGANG FOOTBALL

Codemasters ● £2.99 cass joystick/keys



Scene: the back streets of a decaying urban jungle, where vicious street gangs face each other in Britain's traditional combat sport, soccer. This could end in glory, disgrace or serious physical injury. These boys stop at nothing to win, and scoring a goal is no guarantee that it will count. Footballing ability must be backed up with aggro. Here nice guys don't finish first – in fact, they're lucky to finish at all.

This is the continuing scenario of *Street Gang Football*, an adaptation from the childhood memories of millions of would-be Maradonas, Vinnie Jones and Tommy Smiths (the Liverpool hatchet man, not the Glaswegain saxophonist). Most of us have played footie in between parked cars, breaking windows and doing a runner. This blast from the past also has the advantage of exploring an established concept (i.e. Street Soccer, on *Four Soccer Sims*), as well as a fertile ground for humour. Is that what we get? No chance.

Streetgang Soccer features graphics borrowed very nearly straight from the original. They are a little smoother, admitted, and the colours are a little better, but not enough to justify nearly four months' work. Everything is too small and too indistinct to be any fun to play.

When your players run up screen to score, for example, they obscure the ball – an unwelcome bit of realism that helps to ruin gameplay.

The whole premise of 'Off-Pitch' football is that the surrounding area makes ball-control difficult. Difficulties can be coped with, impossibilities cannot. The ball behaves completely randomly, supposedly in line with real street football. But a game should feature as much skill as luck, or how can you influence what happens?

The object, of course, is to pass, dribble and pray to get the ball to the other gang's goal area more often than your opponent. Once there you have the tedious task of avoiding the 'dead ball' zone to score. It is here that the major new side of the game becomes apparent. Just like real soccer, everybody argues and unlike real soccer arguments turn into full-scale brawls.

The arguments appear as speech bubbles from mugshots of some pretty unsavoury characters (nothing like the players, by the way). The row escalates until they come to blows, and again the scene shifts, this time to a brawl scene. This element could have been exploited to the full, *Renegade* meets *Match-day* style.

Once again, however, the full potential of the game is missed and all the fight consists of is a high speed waggling contest. Is this how disputes are settled in the roughest gangs this side of the Bronx? Call me a vulture *(you're a vulture – ed)* but you don't even get a chance to see the blows getting landed – just a comic book cloud of dust.

Even more irritating is the waste of another good concept: when the ball bursts, you get to play with a tin can. Now here was an ideal comic opportunity to introduce a whole host of unsuitable ball substitues, but no, it's always a tin can, and the joke very soon falls as flat as the ball.

The final nail in the coffin comes when the opposition get fed up and storm off in a shower of expletives. What can one say about a game so dull even the sprites want to go home? The violence promised on the cover is never delivered, and the tongue in cheek tone of the concept is never around for long.

Street Gang Soccer takes you straight back to the bad old days of football sims, where the appearance of man-shaped spites and an interesting backdrop were more important than gameplay. To be perfectly frank, now the genre has matured with *Gary, Emlyn* and *MicroProse* this all looks rather amateurish. A good idea and hard work have been squandered, and the disappointing result is a monstrously boring and needlessly fiddly game.

TW

SECOND OPINION

"With terrible timing* Streetgang Soccer *makes an appearance alongside Emlyn, Gazza and Microprose – and just can't live with the opposition. Forget it."

SC

GREEN SCREEN
no better

Great soccer quotes of our time 6

'Hodge scored for Forest after only 22 seconds, totally against the run of play.'

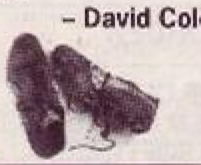
– Peter Lorenzo



Great soccer quotes of our time 7

'Don't tell those coming in now the result of that fantastic match. Now let's have another look at Italy's winning goal.'

– David Coleman



FIRST DAY TARGET SCORE
stay interested

The Verdict

GRAPHICS 54%
- ☐ Good comic-book treatment of fights.
- ☐ Playing screen too small and sprites too ill-defined.

SONICS 35%
- ☐ OK tune.
- ■ Pity it's the same as *Street Football*.

GRAB FACTOR 44%
- ☐ Some mildly amusing moments...
- ■ but the fun won't last.

STAYING POWER...39%
- ■ Crushing boredom sets in soon.

AA RATING 43%
- ☐ A cynical re-hash of an old idea.
- ☐ No fun. Why bother?

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KEY

Game title is followed by software company responsible; percentage; issue; and finally page number. Games in **bold** are reviewed in this issue.

FIRST DIVISION

Emlyn Hughes International Soccer	**Audiogenic**	**93%**	**45**	**38**
Microprose Soccer	**Microprose**	**87%**	**45**	**48**
Matchday II	Ocean	86%	28	60
Matchday	Ocean	89%	2	64
4 Soccer Sims	Codemasters	81%	40	61
Gary Lineker's Hot-Shot!	**Gremlin**	**81%**	**45**	**41**
Roy of the Rovers	Gremlin	74%	41	37
Big League Soccer II	Viper	85%	7	72
World Cup Soccer	Macmillan	78%	3	62
Football Manager II	Addictive	72%	36	40
Big League Soccer	Adam Whitlock	82%	3	38



SECOND DIVISION

Gary Lineker's Superstar Soccer	Gremlin	66%	29	56
Football Manager	Addictive	69%	1	67
Footballer of the Year	Gremlin	66%	17	58
Brian Clough's Football Fortunes	CDS	73%	19	60
World Cup	Artic	68%	1	74
Mexico '86	Qualsoft	68%	4	40
Soccer '86	Activision	61%	12	55
Soccer 6128	Graeme McQuoid	66%	34	46
Football Director	D&H	65%	26	56
League Challenge	Atlantis	62%	22	60



THIRD DIVISION

Gary Linekers Superskills	Gremlin	64%	40	53
F.A Cup Football'87	Virgin	37%	20	60
F.A Cup Football	Virgin	41%	8	53
Streetgang Soccer	**Codemasters**	**47%**	**45**	**43**
Indoor Soccer	Mseven	31%	8	64
Peter Shilton's 'Handball Maradona'	Grandslam	38%	17	58
5-A-Side Soccer	Mastertronic	17%	14	56
Glen Hoddle Soccer	Amsoft	50%	4	49
World Cup Carnival	US Gold	0%	11	56



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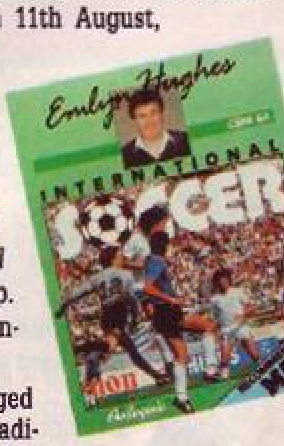
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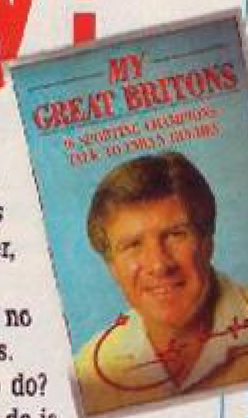
The competition is to celebrate the release of the critically acclaimed *Emlyn Hughes International Soccer* (reviewed on p. 38), and the lucky winner wins:



- a specially arranged tour of the famous stadium the day before...
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- best seats in the house for you, your friend, Steve (editor of *AA*) and a representative from Audiogenic Software Ltd.

And nine runners up make up the *AA* team - the winner and friend, together with you nine (Manager: Steve Carey; Trainer: Audiogenic Wonderwoman Beverly Gardner). Together we shall tread the hallowed turf on the day before the big game in a specially arranged tour of Wembley Stadium (travelling expenses not paid).

The winner and the runners up also receive a signed hardback copy of Emlyn Hughes' *My Great Britons*, a series of interviews conducted by Emlyn himself with great sporting legends.

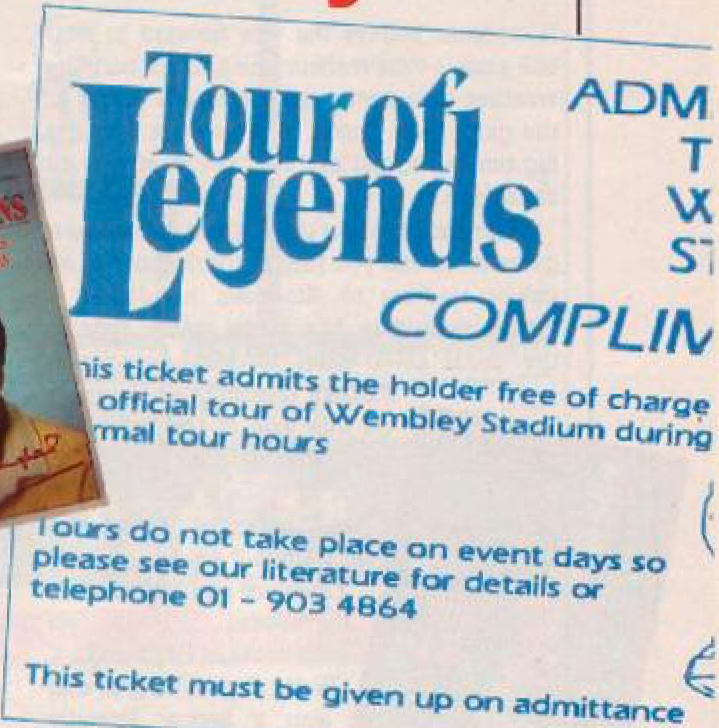


And 100 runners up receive an *Emlyn Hughes International Soccer* poster, too!

It's the competition that no football fan can afford to miss.

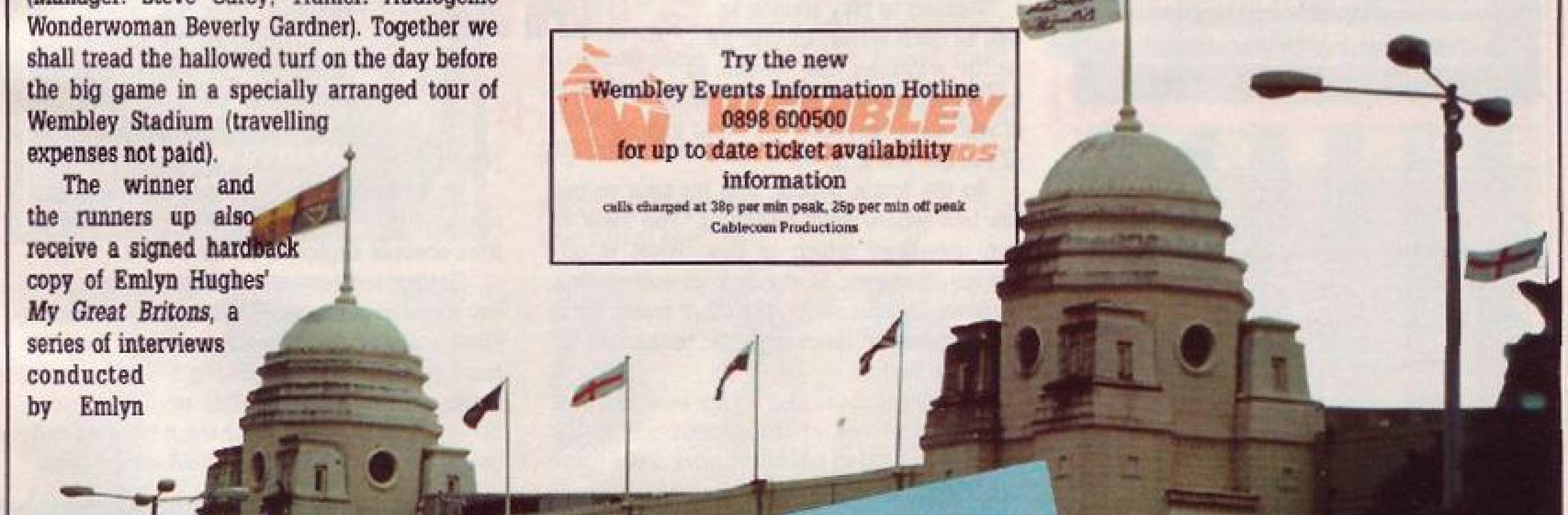
So what do you have to do? Simple. All we want you to do is to give us a short commentary of your favourite match as played between you and a friend on *Emlyn Hughes International Soccer.* Your commentary will be judged by the *AA* team for its excitement and journalistic talent (though why we are supposed to know about all that is anyone's guess).

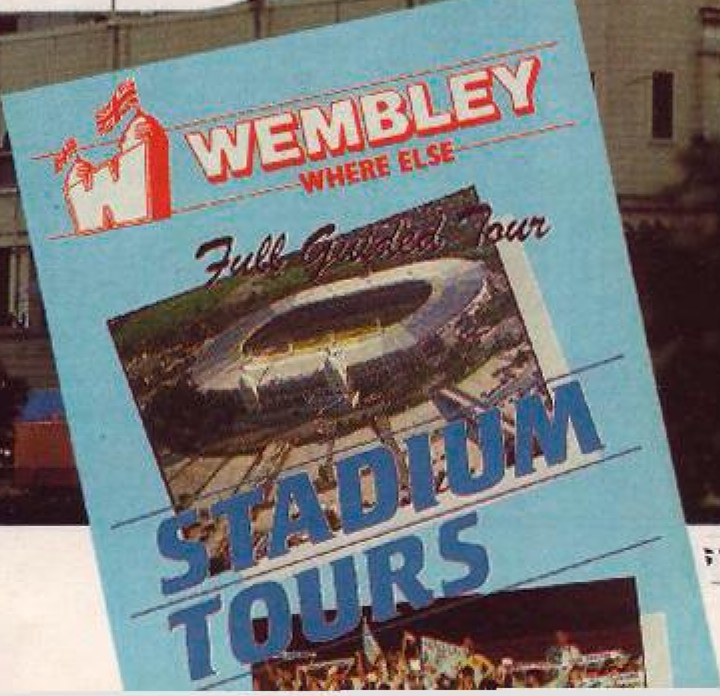
In turn the winner will be given the chance to write a commentary of the real match itself at Wembley and the two days he or she spent in the company of Steve and Beverly. (This will appear in a later issue of *AA*, unless you say uncomplimentary things about Steve and/or the mag.) ●



Rules

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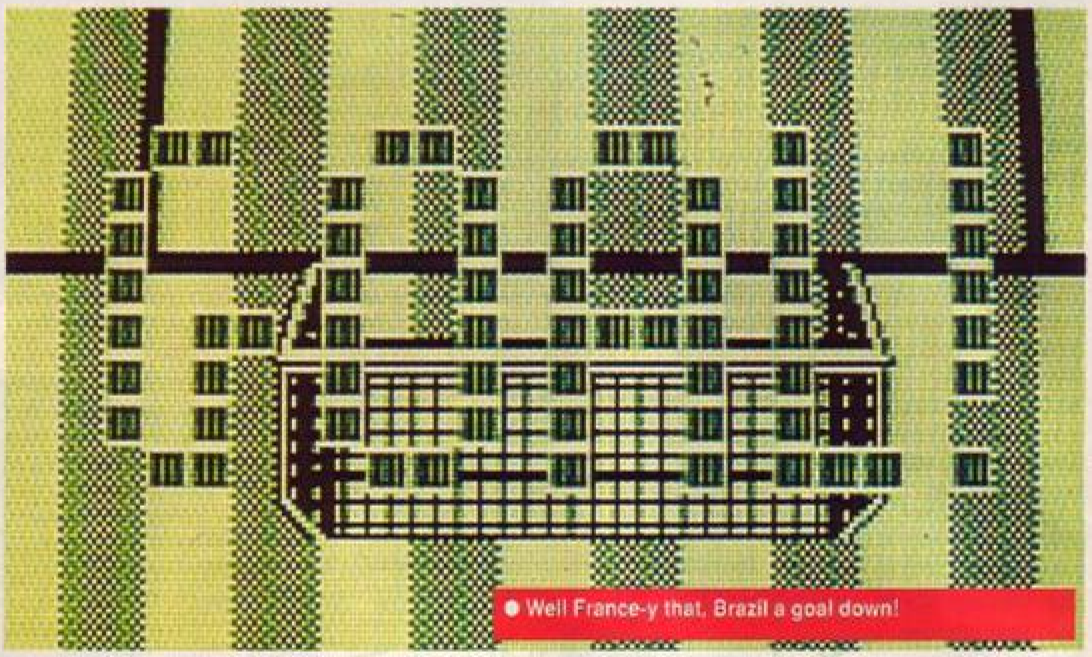
Microprose ● £14.95 cass, £19.95 disk joystick/keys

Microprose believe the way forward in football sims is total realism; the ball can curl, the weather turn nasty and Brazil are better at the game than Oman. You play the way the big timers do, and that's for keeps, strictly all or nothing.

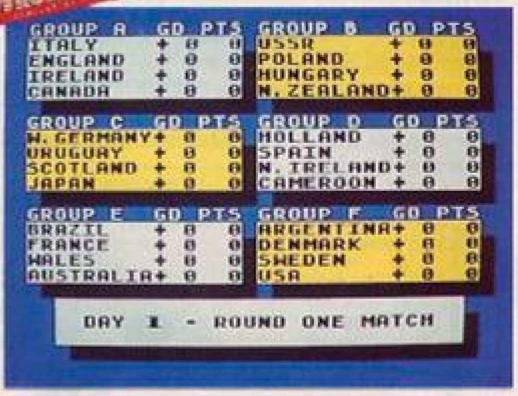
The choice when playing the *Microprose* game is, should you play in the warmth of an indoor stadium to American rules (like a wimp) or outside, like a real macho type in the teeth of a gale, to real Association Football regulations? Naturally on this side of the pond, we are more used to the butch side of things and so it is here that most people will look first for action.



There are four *real* football derivatives, an International Chall-enge, a World Cup, a League and also a Soccer Friendly (when was pro football ever friendly?). The teams are recognised international sides (although some are more recognised than others), all with differing abilities. Oman have mastered kicking the ball and the Cameroon goalkeeper catching it, while Brazil can drill the ball past any keeper from the changing room.



● Well France-y that, Brazil a goal down!



In the 'Challenge', you play against successively better teams until you're knocked out (rough game this soccer), while in the League you play friends and neighbours in round robin fashion.

The World Cup is the tournament to win though. You flick through the results screen watching the tale of the championship unfold until the day comes for your match.

Waiting to play sounds as dull as ditch water; though it's worth watching the results as upsets occur and give an indication of who the next round opponent may be (*if* you get there, that is!).

So the footie begins, and it's time to put the ball where your mouth is. The view is from overhead which is fine. What is off-putting, however, is the lack of colour. One team wears light shirts, the other wears dark, and the shirt of nearest player to the ball on your side flashes.



● Watch those micro pro's at work *(ouch - ed.)*

It's quick and the players are easy to direct although the lack of colour means that it's sometimes hard to tell who's who. Even playing against the infernal machine life is not as simple as it has been in the many sims before. Kick-off rules must be obeyed and you must pass the ball to one of your own men before touching it again. True to form Microprose give a list of the basic rules of soccer in the handbook and most of them apply to the game on screen. The only exception to this is the off-side rule (on the grounds that even 128k can't work that one out!).

Dribbling the ball is no problem, just keep your joystick pressed in the right direction and off goes yer'man. Kicking is a real pain in the foot though, because the controls are dead sensitive. If you try and wellie the ball by keeping the fire button depressed, it's likely to send the ball sailing over the nets, too short a press and it grinds to an embarrassing halt just feet from you.

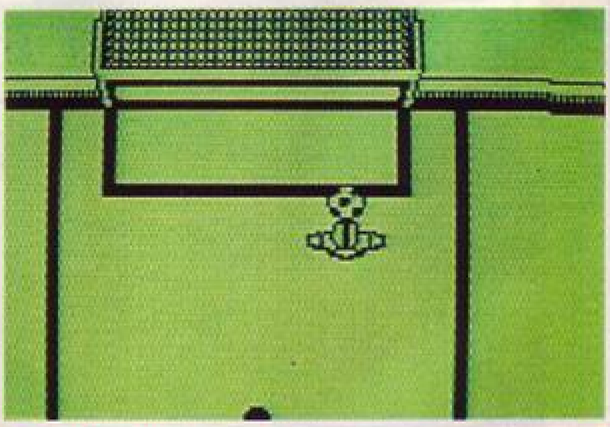
The variety of kicks is a great bonus for the game, with both forward and backheel kicks present – but so are some interesting and quirky trick shots. Firstly, there is the *'whooaaa!'* a backward somersault kick, which generally occurs when you're attempting a hard backheel. Suddenly you see a pair of boots facing upward and the ball racing back down the pitch.

AA RAVE!

Most fun though is the *'whaa?-WHOOSH!'* otherwise known as the variable power banana shot. You can choose the strength of the curl at the start of the game, and it's much easier to score with the ball almost turning 90 degrees on 'hi' power.

Unfortunately the other side get the ability too, and they don't hesitate to plug shots in from obscure angles for hours on end.

Sliding tackles are another feature that can catch you unawares. Generally the opposition slide in taking your feet, and the ball from under you. If it's raining however, then watch out if you try to slide in on someone. You're liable not only to get them but also end up at the other side of the field as the grass



● Wall to wall football

AA game warning!

Microprose Soccer **comes in a limited form for 464 and 664 machines. The version reviewed here was the 6128 game, and the 64k edition carries fewer options to allow the game to maximise the potential of each machine. 464 and 664 owners miss out on the league or cup options for both outdoor and indoor football.**

gets more slippery by the second.

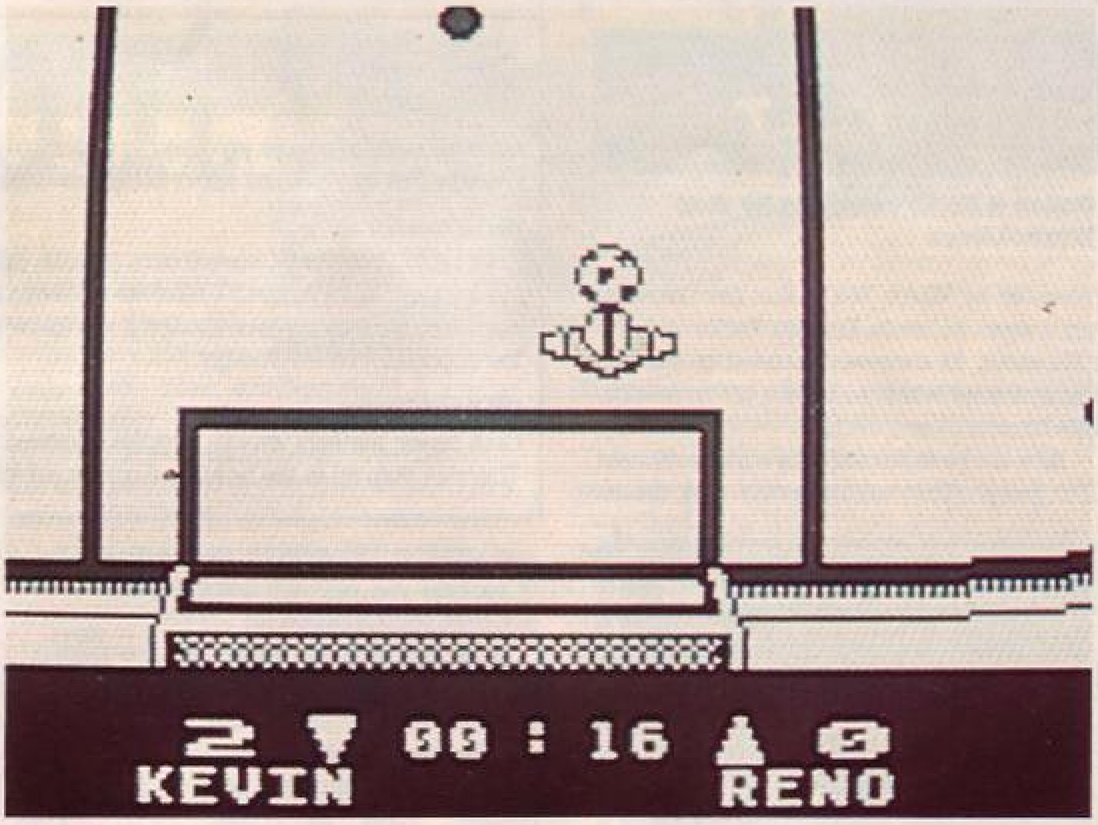
The rain effects, which are accompanied by rumbling thunder and lightning flashes can effect all the outside games. As the ground gets soaked the slides get longer and the ball ceases to roll well. You can see the rain hit the waterlogged pitch, and occasionally a flash of lightning highlights the games border.

Obviously the U.S. rules six-a-side escapes such a cold and miserable fate (unless they've leaky roofs). Ostensibly the game is the five-a-side that we all knew and loved in the school playground, with an extra man (you don't say) and rebound walls. The game is much faster, and features wandering goalies who've a tendency to try and shame their opposite number by scoring.

As an extra game it's great fun, and it too features a variety of different competitions, all basically the same as their outdoor counterparts. But with four quarters and a smaller playing surface everything seems a little more frantic than before. You can't help getting drawn into the pace of the game, whether you're holding on to a lead or chasing goals to sneak a draw in the dying seconds. It would be a real nailbiter if your fingers weren't too busy on the keypad.

Microprose Soccer is a fun footie sim, but it does have limitations. Graphically it's no high flyer, it's competent but needs more colour. A little more brightness may have limited other areas but it would've come in handy when trying to discover which man in that pile of slide tacklers is yours. On the other side of the coin though, the accompanying music is good, and the effects inject fresh fire into a sim for the first time since *Matchday*. The thunder and lightning may be totally peripheral, but they greatly enhance the game and reveal the care that went into the original design.

So while it's not the best looking game in the history of football, Microprose have done as thorough and professional a job as always. Still par for their course, it's more than a single game, and complexity ensures a long and enjoyable game life. Its dual format gives great instant appeal and extra variety and prevents over exposure to one form of gaming. **TW**



● Replay it again Sam!

SECOND OPINION

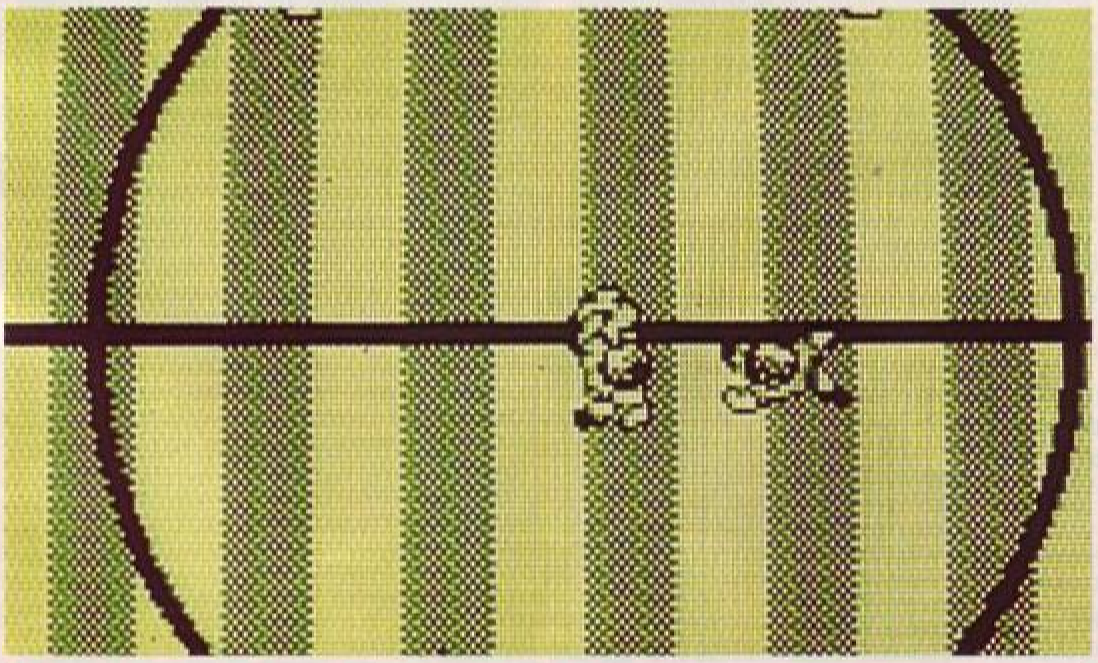
"Good game – but will you just look at that price! With the full version available only on disk, Microprose have once again produced a cracking game at an outrageous price." SC

GREEN SCREEN
just as good

FIRST DAY TARGET SCORE
beat a third seed team



● An exclusive tournament



● It was Microprose v. *AA* – and the micro boys never stood a chance

The Verdict

GRAPHICS 72%
- □ Fast moving footie fellas.
- ■ But small green games screen.

SONICS 89%
- □ Interesting long lasting tune.
- □ Literally thunderous effects make the rain really convincing!

GRAB FACTOR 71%
- ■ Play control isn't easy at first...
- □ ... but you pick it up pretty fast.

STAYING POWER .. 83%
- □ Loadsasoccer to play.
- □ Two whole games too!

AA RATING 87%
- □ Thoroughly professional footie sim.
- ■ Pity there's not more colour.

RUN THE GAUNTLET

Ocean ● £8.99 cass, £14.99 disk joystick/keys

Presented by Martin Shaw, *Run the Gauntlet* was a cross between *Krypton Factor* and *It's a Knockout*. Its success depended on the fact that everyone wants to have a go on jet-skis, little hovercraft and the like.

Now it's been turned into a multi-element CPC game. (That unfortunately also means multi-load on tape, which is a real pain.) You're presented with a randomly chosen set of events, each of which you compete three times in three different craft.

Really *Run the Gauntlet* is no more – and no less – than a theme-connected compilation, and as such fails or succeeds on the quality of its components. And it's great fun! You'll take very little time getting used to the controls, though becoming acquainted with the different behaviour of the different craft takes some time.

What's good about it is that you can compete against up to three others (not at the same time), and whoever is last gets disqualified: 'You have failed to reach the standard needed for *Run the Gauntlet!*' you're told, never a happy message, and back you go to the beginning to try again.

Some of those people who played *Run the Gauntlet* with me found it too tricky, and flung their joysticks away in disgust, saying things like, 'Oh flipping heck, this game is too jolly tough for me and no mistake!'

Certainly the buggies are a pain, since you're only shown a very small piece of track ahead, leaving you very little time to take evasive action. It's frustrating, having to go slowly because you can't tell what will happen from second to second.

Although you are presented with what seems a great deal of variety it has to be said that it boils down to a small group of different backgrounds and courses, made to appear more by the use on them of different kinds of craft.

Either way you look at it – you really get to know the courses; or you soon run out of new scenery – it doesn't amount to quite the same variety as it sounds.

I'd certainly recommend *RTG*, with a couple of reservations. If you don't fancy the idea of a whole flight of similar races involving virtually the same sprite behaving in differing ways, then forget it. And if you don't have a disk drive, then *certainly* forget it. Life is too short! **SC**

SECOND OPINION

"RG doesn't have an amazing selection of screens, and while sprites change little else does. They're tiny, too, and some controls are too sensitive to be useable."

David Patient (12)

GREEN SCREEN
loses some appeal but still very playable

AA RAVE!

Crafty tips

On both kinds of course you need to watch out for random explosions which can wreck your chances just as you think you're doing really well...

Water Course
Craft types: hovercraft, speedboats, jet skis, inflatables
Each course has a (slightly) different course to navigate. Overtaking is easiest – or let's say least difficult – on corners, though if you know exactly where you are you can power past the opposition on the straight.

Off Road Course
Craft types: meteors, quads, buggies, supercats
There's a map up in the righthand corner, which is really useful for telling you what's ahead.



● Look out for underwater explosions on the way!



● This game could drive you round the bend

First day target:
beat a friend in *every* event!



● Buggie this for a game of soldiers

The challenge

The *Run the Gauntlet* challenge is divided into three events picked at random. Each consists of three segments either on land, water or the assault course. The vehicles you compete with include:

- **hovercraft – tricky to handle**
- **speedboat – fast and manoeuverable**
- **jet skis – fast, tight turns**
- **inflatable – moderate speed**
- **buggy – fast one-man buggy**
- **quad – fast four-wheel bike**
- **supercat – amphibious six-wheel all-terrain vehicle**



The Verdict

GRAPHICS 68%
☐ Smooth and fast...
■ – but the sprites are titchy!

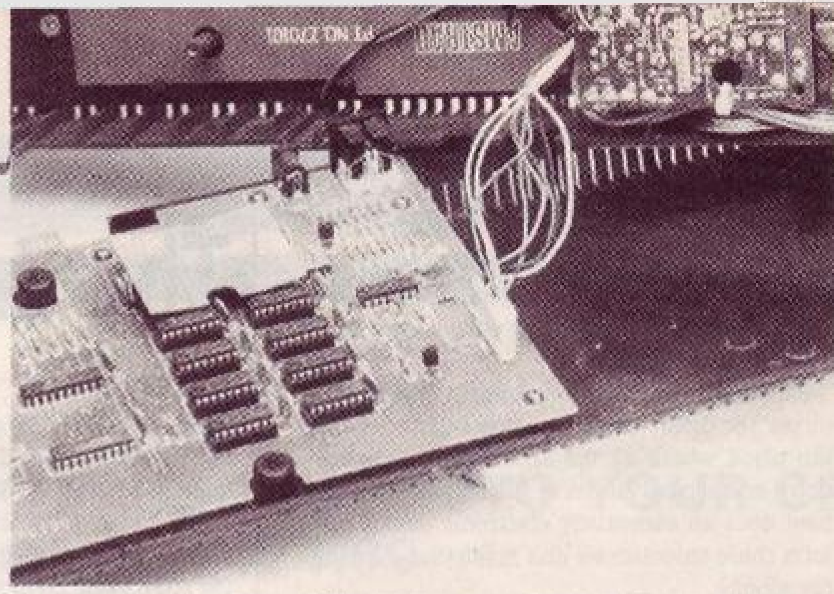
SONICS 62%
■ Engine sound goes up when you increase speed – but that's about it.

GRAB FACTOR 84%
☐ Easy to get going on most sections...
■ though some are quite tough.

STAYING POWER ... 74%
☐ Lots of different events...
■ but not so many different settings.

AA RATING 80%
☐ A Rave – but *not on tape!*

Inside out



If you ever peek inside your CPC, you'll probably be disappointed. The trouble is, if you don't know what you're looking at there's so little to see!

Now, in the first part of a new series, STUART McCOLL takes you on a guided tour.

So just what does lurk within the depths of those mysterious black chips inside your CPC? What determines all of those myriad and apparently unfathomable interconnections on the PCB? No, don't throw your hands up in confusion. Understanding a simple, microprocessor based computer system – which is in essence what your CPC is – need not be difficult.

In fact, computing science has become so advanced that designing a microcomputer now amounts to little more than hanging some memory and I/O devices onto a standard processor. This is far removed from the early days when it took over 7,000 hours to build the ENIAC (1946), a military number cruncher which could only store 20 10 digit numbers!

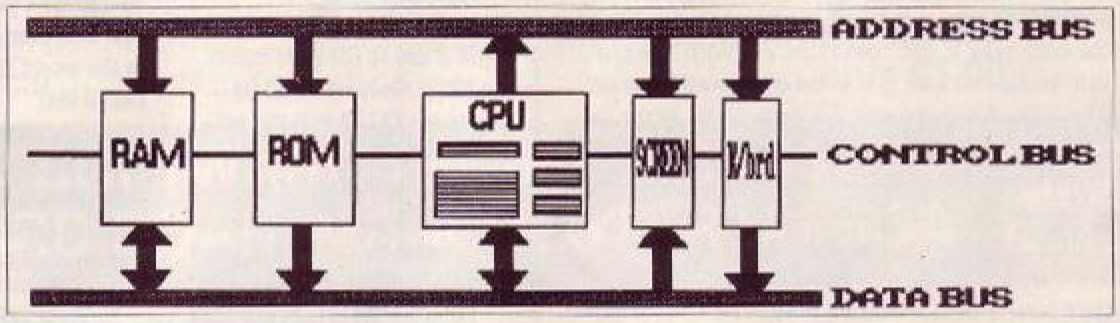
Rather than diving in at the deep end, however, let's first take a look at the basic architecture of a simple microcomputer system. Figure 1 illustrates how the individual components of a microcomputer may be connected – in what's known as a Memory Mapped Input/Output configuration. Each micro-computer system will consist of several minimum components:

(1) Microprocessor (CPU), to fetch and execute instructions;
(2) ROM, containing a power-up program, or simple OS;
(3) RAM, somewhere to store and retrieve information;
(4) Busses, over which addresses, data and control information flow.

A useful microcomputer also needs one or more Input/Output devices with which it can communicate to the outside world. Typically, these may be:-

(1) Screen (output)
(2) Printer (output)
(3) Keyboard (input)

It's called a Memory Mapped system because each device is accessed by a unique address – regardless of whether it's a byte of RAM or a piece of hardware like a VDU.



● Diagram 1, showing how individual components of a microcomputer might be connected

Why binary?

We use a denary (base 10) number system, so it may seem reasonable to build our machines to operate with the same number base, rather than employ a more obscure binary (base 2) number system.

However, computers are electronic devices, which means that everything they process must ultimately by represented as electrical signals. And representing the ten digits 0,1, and.so on up to 9 as electrical signals becomes electronically unfeasible.

A readily implementable alternative presents itself when we examine the situation from a hardware viewpoint.

Electrical signals are transmitted over wires, and in a digital system a single wire may – at any time – take on one of two well defined finite states:

Either it is Low (GND/0V) – denoted as L or 0 binary

or it is High (+5Vcc) – denoted as H or 1 binary.

Although a single wire, W1, can only represent two unique states, by combining two wires, W1 & W2, up to four (2*2) different states are possible. A similar relationship was first recognised in 1941 by Konrad Zuse, a German engineer responsible for building (arguably) the world's first computer – a programmable calculator.

Analysing this pattern, a relationship is obtained for 'n' wires:

W_1	= binary
L	0
H	1

W_1	W_2	= binary
L	L	0 0
L	H	0 1
H	L	1 0
H	H	1 1

The actual value associated with a state is obtained by multiplying each binary positional coefficient (C_n) by the corresponding positional significance (2^n) and summing. The binary coefficients associated with each of the above voltage states is listed.

However, later we'll see that this isn't the only way of interpreting these voltage signals. For an n column binary number, then, (where n increases to the left) we have:

$$Value=C_{n-1}X2^{n-1} + C_{n-2}X2^{n-2} +...+ C_1X2^1+C_0X2^0$$

Let's explain this rather complicated looking formula with an example and convert 106_{10} to binary:-

The binary number system has a radix of 2, and each positional coefficient may be either 0 or 1. Thus we have:

Pos Si= 64's 32's 16's...

106_{10}= $(1X2^6)+(1X2^5)+(0X2^4)+...$
= 1 1 0...

8's 4's 2's 1's

$(1X2^3)+(0+2^2)+(1X2^1)+(0X2^0)$
1 0 1 0

$=1101010_2$

Binary isn't limited to positive numbers.

Most computer systems implement Two's Complement Arithmetic, which allows both positive and negative numbers to be represented.

Essentially, the most significant BInary digiT (leftmost BIT) of the word (group of bits) in which the number is stored becomes a sign bit. If it is 1, the number is negative, and if it is 0, the number is positive. Converting numbers to and from two's complement representation can be summarised in these two easy steps:-

1. Invert every bit of the binary word, and
2. Add 1 to the result.

So, for example: convert -10_{10} into an eight bit binary word.

10_{10} = 00001010_2 (positive: $bit_7 = 0$)
Invert = 11110101 (negative: $bit_7 = 1$)
+1 + 00000001
11110110 (-10_{10} in binary)

To prove that this is a reasonable representation of -10_{10}, let's try adding $+10^{10}$.

The result should, of course, be 0.

Decimal: -10
+10
10

Binary: 11110110
+ 00001010
00000000 (infinite carry of 1)

If you could talk to the peripherals...

We'll be discussing each aspect of this structure, and how it may be implemented – with the aim of showing just how easy it is to build your own microcomputer.

Clearly, the Central Processing Unit or CPU forms the heart of the microcomputer, being the place where all the arithmetical computations and logical decision making occurs. But how does an essentially electronic device perform these calculations and make (subsequent) decisions?

To understand, we have to become aquainted with binary arithmetic, and how a computer uses it to represent numbers (at the hardware level): see the 'Why Binary?' box before you continue.

Now let's take another look at Figure 1. See that thing called the Address Bus? Well, in a typical micro, this will be nothing more than a collection of 16 parallel wires, each carrying a voltage signal. Attached to these wires will be the CPU, memory, and every other device which is part of the system (eg keyboard and VDU).

You see, when the CPU wishes to 'talk' to a peripheral (eg, a byte of memory) – which is the only way it can communicate with the outside world – it will place the device address on this bus. As there are 16 two state wires, a total of 2U16U = 65536 unique addresses (High/Low voltage combinations) are possible. Notice, from Figure 1, that the only component putting addresses onto the bus is the CPU – every other device just 'listens.' Later, we'll discuss how a device knows when the CPU wishes to communicate. Incidentally, the 16 wires of the Address Bus account for a large part of the maze of wiring tracks on a computer PCB. Devices which are part of the system will be 'plugged' into these pathways somewhere.

So we now know why computers use binary, and how to convert numbers between bases. But how does it actually manage to perform arithmetic operations, or make decisions, on what are essentially a collection of organised High and Low voltage signals?

To understand this, we'll have to build upon our knowledge of binary arithmetic by introducing the logic gate.

Logic Devices

The most idiscretei component normally considered during the design of a digital microcomputer system is the *logic gate*. A logic gate is an electronic device with a single output which is uniquely determined by the combination of one or more inputs. What exactly is meant by inputs and outputs? Well, because it is an electronic digital device, the inputs and outputs will all be wires carrying voltage signals of either +5Vcc or 0V. So what each logic device does is examine the voltages present on its inputs, perform a function, and in doing so set its output to either +5Vcc or 0V.

However, when talking about logic gates, rather than describing input/output configurations in terms of voltages, it is more convenient to describe the inputs and outputs using the BOOLEAN states TRUE and FALSE. Every logic device has an associated Truth Table which describes its behaviour, and a corresponding schematic symbol, used to identify it in logic diagrams. Because the output of a logic gate can always be determined from its inputs, they are commonly referred to by the remarkably ugly phrase combinatoric devices.

The best way to understand the notion of a Truth Table is to link it to something hard and practical. Let's use the *Amstrad Action* drinks machine, not because it produces pleasant drinks *(you can say that again! – ed, Pat & Trenton)*, but because it's convenient. Well, it is if you work in the *AA* office *(oh get on with it – ed, Pat & Trenton)*. Look at 'The drinks are on me!'

Although logic gates are simple devices, they may be used to construct quite complex conditional circuitry. The function of these more complex devices can then be specified, (with a Truth Table) and thereafter referred to as an individual component. This concept is akin to modularity in software development, and – as we shall later see – is an equally essential practice when constructing the building blocks used in computer design. ●

The drinks are on me!

AND Gate

The output of an AND gate will be TRUE only when all of its inputs are TRUE. If any input is FALSE, the output will be FALSE. This is summarised by the Truth Table given in Figure 2A.

To clarify how such a device may be used, consider the trivial but very practical example of a drinks vending machine (Figure 2B).

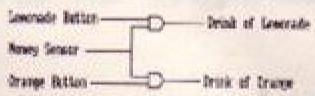
Only when money is received AND a drink-select button is pressed will the output be TRUE and a lovely cup of either lemonade or orange dispensed.

(A)

A	B	C
F	F	F
F	T	F
T	F	F
T	T	T

Symbol

(B)



● Figure 2: 'AND'

OR gate

The output of an OR gate is TRUE if any of the gate inputs are TRUE. Only when all its inputs are FALSE will the output be FALSE.

This is summarised by the Truth Table given in Figure 3A. (Sometimes this gate is referred to as an Inclusive-OR.)

Suppose the drinks machine now offers free cups of water (Figure 3B).

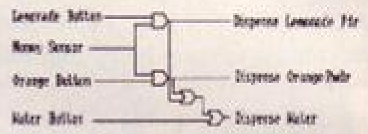
Here, if the water button is pressed OR money is received AND either drink-select button is pressed then the output of the OR gate will be TRUE and water will be dispensed.

(A)

A	B	C
F	F	F
F	T	T
T	F	T
T	T	T

Symbol

(B)



● Figure 3: 'OR'

XOR Gate (Exclusive OR)

The output of a two input XOR gate will be TRUE if either input is TRUE. If both inputs are TRUE, the output will be FALSE. This is summarised by the Truth Table given in Figure 4A.

The drinks machine we have developed so far works just fine – but it has a serious design fault (apart from the fact that like every drinks machine in the world it can't do a decent cup of tea).

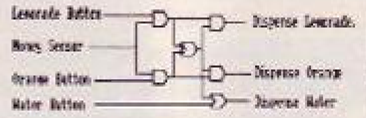
Sooner or later, someone smart alec will realise that if both lemonade and orange buttons are pressed, both drinks will be dispensed. Figure 4B overcomes this flaw. Refer to the truth table for a XOR gate, and you'll see that only when EITHER orange OR lemonade is requested, will the output of the XOR be TRUE, and a drink be subsequently dispensed. If both buttons are pressed you'll get nothing, *and it would serve you right for trying to cheat.*

(A)

A	B	C
F	F	F
F	T	T
T	F	T
T	T	F

Symbol

(B)



● Figure 4: 'XOR'

NOT gate

A NOT gate has only one input. Its output will be the complement of that input. For example, if the input is TRUE, then the output will be FALSE and vice-versa. This is summarised by the Truth Table in Figure 5.

A	B
F	T
T	F

Symbol:

● Figure 5: 'NOT'

Next month in *Inside Out* Stuart McColl moves on to memory devices, flip flops and number crunching. Stay tuned for education from your information station!

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TYPE-INS

McDONALD special, anyone?

TYPE-WRITER!

Newcomers to *Type-Ins* complain that, because they don't understand what the lines do, they don't know how to debug (correct) their programs. What's needed is a means to ensure that absolutely *anybody* can put in a listing and be sure it's right. Hence *AA Type-Righter.*

Start typing in the program now (don't bother running it until you've read the page). Once it has worked, two interception routines are set up to intercept printing to the screen and printer. Every time the computer notices a carriage return, it adds up all the characters it has printed since the CR, and produces a checksum figure. This always starts with a capital then lower case, and this is repeated.

So every time you type in a line for a *Type-In* (don't forget to enter NEW to get rid of *Type-Writer!)* you can compare the checksum figure with what's printed in the magazine. If they're the same, then all is well. If they're different, then what you've typed is *not* what the program wants.

Each month all programs in *Type-Ins* will have a list of these four digit numbers beside them. However, to help stop you typing them in accidentally as part of a program, we'll print them – in a column – before the program lines.

When you're typing in listings though, remember that the checksum figure is printed last. We've printed a list of the figures with *Type-Writer* – not because they'll be much use, but just as an indication of what to expect.

Daft question

When first run, the program asks if the machine you are using is a 464. If it isn't, or you have a 6128 ROM fitted, then do not answer yes! *(Forum* will now prompty fill up with dozens of letters on how to get the machine to do this for itself. Never mind.)

If you get a `Data Error` message, then carefully check lines 200-310. Not getting such an error does not necessarily mean that the data is correct – if two values were transposed for example, the computer would not notice.

When, after typing in the whole listing (yes, I know it's a bore, but I can't come round to your house and do it for you, 'cos I've lost your address), you finally get checksums appearing after everything you type, type `LIST` to compare the values in the magazine with those on the screen (`LIST #8` for a printer copy works fine too).

DON'T PANIC!

When you get a checksum that's different from the one printed in the magazine, here's what you do: *DON'T PANIC!*

Type-Writer is very sensitive, and even takes note of swapped characters and embedded spaces...

The spacing in *Type-Ins* has been designed to make the listing as easy as possible. So the text never joins back onto the line number: it is done as a separate block. Also, when a line is too big to run continuously along the page, it breaks at either a space or a punctuation mark: colon, semicolon, comma, bracket or full stop.

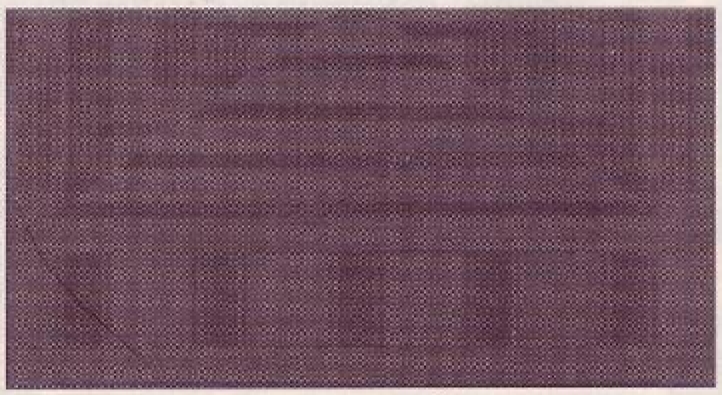
One thing to bear in mind when puzzling how long a line actually is: all the characters are exactly the same width in the listings. You can actually count up the number of spaces or whatever used in a string, simply by counting them on a line either below or above the one you want.

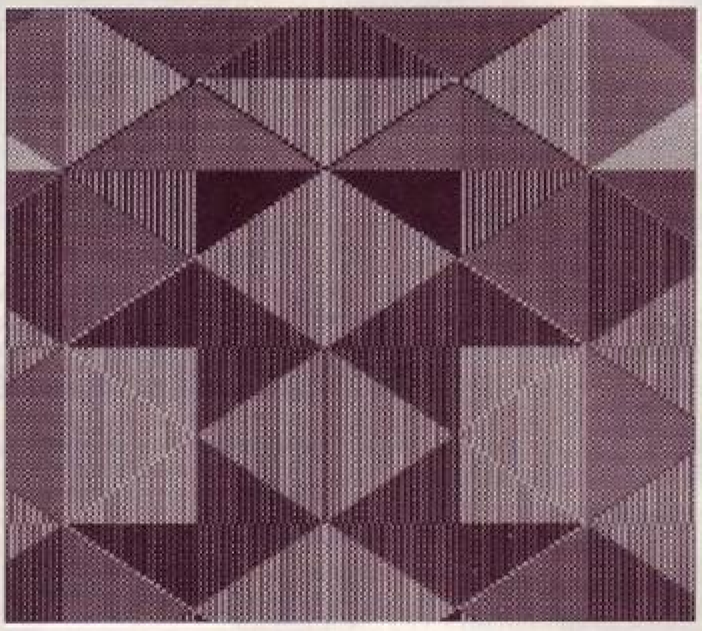
```
{LxAn} 10 'Type-Writer
{NkBj} 20 'by Pat McDonald
{BqAw} 30 'Amstrad Action June 1989
{EiBp} 40 flag=0:PRINT:INPUT "Am I a 464 (Daft
          question!)";h$
{IsBj} 50 a=HIMEM-93:MEMORY a-1:RESTORE 200
{PjAr} 60 FOR b=a TO a+&5D
{ArAv} 70 READ c$:d=VAL("&"+c$)
{AsAr} 80 POKE b,d:e=e+d
{IqAl} 90 NEXT b
{BkBx} 100 IF e <> 10566 THEN PRINT "Error in data.
           Please Check.":END
{MpBv} 110 IF LEFT$(h$,1)="y" OR LEFT$(c$,1)="Y"
           THEN POKE a+8,&A4
{AkAo} 120 z=a+34:e=0
{AlAs} 130 f=ABS(INT(z/256))
{DwAq} 140 g=ABS(((z/256)-f)*256)
{NqAx} 150 POKE a+40,g:POKE a+41,f:POKE a+45,g
{CtBm} 160 POKE a+46,f:POKE a+57,g:POKE a+58,f
{NkBi} 170 POKE a+65,g:POKE a+66,f:POKE a+77,g
{LxAx} 180 POKE a+78,f:POKE a+85,g:POKE a+86,f
{FiAu} 190 POKE a+90,g:POKE a+91,f
{JmAv} 200 DATA e5,c5,f5,fe,0d,20,18,21
{NpBi} 210 DATA 8a,ac,01,00,06,51,59,7e
{ClAw} 220 DATA fe,00,28,11,47,81,10,fd
{ErAv} 230 DATA 4f,eb,09,eb,23,18,f0,f1
{PrAv} 240 DATA c1,e1,cf,fe,93,3e,20,cd
{GvAx} 250 DATA 22,90,3e,7b,cd,22,90,7b
{KvAt} 260 DATA 07,07,07,07,e6,0f,c6,41
{CxAV} 270 DATA cd,22,90,7b,e6,0f,c6,69
{ExAv} 280 DATA cd,22,90,7a,07,07,07,07
{KvAu} 290 DATA e6,0f,c6,41,cd,22,90,7a
{IpAv} 300 DATA e6,0f,c6,69,cd,22,90,3e
{JrBj} 310 DATA 7d,cd,22,90,18,c1,4d,61
{NuAl} 320 g=g-34
{GkBm} 330 IF flag=0 THEN flag=1 ELSE GOTO 370
{DvBo} 340 POKE a+35,PEEK(&BB5B):POKE a+36,
           PEEK(&BB5C)
{CsBo} 350 POKE &BB5A,&C3:POKE &BB5B,g:POKE
           &BB5C,f
{FwAm} 360 GOTO 50
{DpBp} 370 POKE a+35,PEEK(&BD2C):POKE a+36,
           PEEK(&BD2D)
{IqBn} 380 POKE &BD2B,&C3:POKE &BD2C,g:POKE
           &BD2D,f ●
```

Nigel's pair of shorts!

Here are a couple of graphics programs sent in by NIGEL MYERS from Bolton that, while taking virtually no time at all to enter, nevertheless produce striking and colourful patterns on the screen.

```
{DxAw} 1 'Hypno-Strobe/Colour Fader
{LxAw} 2 'written by NIGEL MYERS
{MwAr} 3 'for AMSTRAD ACTION June 1989
{IpBx} 4 'Alter value of 'F' (line 10) or 'Y'
         (line 40) for different fx. etc.
{BvBp} 10 a=639:b=399:c=1:d=1:e=1:f=4:INK 0,0:
          BORDER 0:MODE 0
{AuCl} 20 FOR x=-f TO a STEP f:MOVE x,y:DRAWR
          a-x*2,0,c:MOVE x,b-y:DRAWR a-x*2,0,c
{KoBv} 30 MOVE a-x*2,y:DRAWR 0,b-y*2,c:MOVE x*2,y:
          DRAWR 0,b-y*2,c
{BpAu} 40 y=y+2:IF y>b THEN y=1
{NpAx} 50 INK c,d:c=c+1:IF c>15 THEN c=1:d=d+1
{HlAt} 60 IF d>e THEN d=e-1
{OiAw} 70 NEXT x:e=e+1:IF e>26 THEN e=1
{FqAl} 80 GOTO 20
```





```
{PiAo} 1 'RGB Mosaic
{LxAw} 2 'written by NIGEL MYERS
{MwAr} 3 'for AMSTRAD ACTION June 1989
{DtCv} 10 INK 0,0:INK 1,6:INK 2,18:INK 3,11:
          BORDER 0:PRINT CHR$(23);CHR$(1):a=1:x=1:
          y=1:z=0:MODE 1
{NuBx} 20 MOVE x,y:DRAWR 639-x*2,0,a:MOVE x,399-y:
          DRAWR 639-x*2,0,a
{GpCj} 30 MOVE x,y:DRAWR 0,399-y*2,z:MOVE 639-x,y:
          DRAWR 0,399-y*2,z
{LoAx} 40 y=y+2:IF y>399 THEN y=1:z=RND*4
{IiBi} 50 x=x+4:IF x>639 THEN x=1:a=a+1
{IkAq} 60 IF a>3 THEN a=1
{CpAl} 70 GOTO 20
```

35,000 PEOPLE DEMAND TO SEE YOUR PROGRAM!

Send us your latest and greatest programming masterpiece and you can share it with 35,000 people – and earn yourself as much as **£100** into the bargain! Everything that appears in this section of the magazine is paid for, and £10 is the very least we pay.

So get to it! Send your listing, together with name, address and SAE (for return) to: ***Type-Ins, Amstrad Action*, 4 Queen St, Bath, BA1 1EJ.**

Here's a few tips that should increase your chance of getting into print:

- Send only your own original, unpublished work
- We like shorties!
- Enclose a covering letter with a short explanation of what your program does
- REM statements make the program easier to understand
- Use lower-case rather than capitals for variable names
- Do not use as variable names letters that look like numbers (O and Ø, for instance, or l and 1)
- If you're writing in machine code, it would be very helpful to our readers if you include a checksum routine
- Structure your program – divide it into sensible procedures
- Avoid long multi-statements. Short lines make debugging easier
- Test your program thoroughly. When you think it's completely foolproof and perfect, try it out on a friend. Offer them 10p for every bug/problem they find!
- Make sure your name and address is on every single disk, cassette or slip of paper you send us. You wouldn't believe how many items we have received that become separated from their covering letter and then can never be reunited!
- Every so often we invite a *Type-Ins* contributor to write something about their program and/or themselves. So a phone number and an indication that you'd be interested in this would be useful – after all, we pay extra to allow you to tell us how wonderful your listing is!

Hopeless programmers can help too!

But you needn't be a programming genius to help us out. Even if you don't have a wonderful listing for us, you can still play your part in *Type-Ins*.

Sometimes a good idea for a program can be just what is needed to set one of our readers off – and goodness knows, when one of our readers is set off, that's all we need!

So if you have a problem or an idea for an application, share it with us.

Send it to the address above – after all, we know thousands and thousands of the best Amstrad programmers around!

Discourse II

If CPC techie-talk is all Greek to you, let JAMES WILSON, in the second of this series, demonstrate why.

Euclid's Algorithm brings to light a remarkable property of the Highest Common Factor (HCF) which is not obvious if the H.C.F. is determined by factorisation into primes. This property is that *the highest common factor, h, of two natural numbers a and b is representable as the difference between a multiple of a and a multiple of b, that is*

$h = ax - by$

where x and y are natural numbers.

One reason why this property is so interesting is that equations of this form were extensively studied by Diophantus (ca. 180 AD), probably the best ancient algebraist, and are today often referred to as Diophantine Equations.

The only known woman mathematician of the ancient Alexandrian school, Hypatia, recognised this (alas, she was battered to death by Christian fanatics in about 415 AD).

Diophantus was the first to employ signs (for positive and negative) systematically and he also used symbols for unknowns, powers and so on. He solved linear, quadratic and at least one cubic equation.

In some of his methods he effectively used the device of approximating to limits, a method eventually systematized by Sir Issac Newton in the 1670's as Calculus.

Using his limit technique, Diophantus' attenpted to divide 13 into two square numbers, each of which is to be greater than 6. He arrived at squares with sides of 258/101 and 257/101.

Clearly, in all these matters, the knowledge as to whether any given number is prime (that is, divisible by only itself and 1) or not is of utmost importance. If any number is not divisible by any prime number in the range 2 up to its square root then that number itself must be prime. The process of checking the divisibility of a number by the primes is very laborious and many mathematicians have developed methods to reduce this labour.

Gauss (1777-1855) and Pierre Fermat (1601-1665) were quite sucessful and Fermat's method, which is extremely simple in principle, is explained below.

Let *P* be the number we wish to test and let *n* be the lowest number such that $n^2>P$. All we have to do now is form the series of numbers

$$n^2 - P, (n+1)^2 - P, (n+2)^2 - P...$$

If a number is reached which is a perfect square then we have

$x^2 - P = y^2$ and thus $P = x^2 - y^2 = (x = y)$.
If *P* is prime then the solution we reach gives $x + y = P$ and $x - y = 1$.
The difference between each term of the series is $2n = m$ wherem is 1,3,5,... as the algorithm progresses.

An example illustrates this best.

Let $P = 9271$. This lies between 96^2 and 97^2, so that $n = 97$. Our series is thus

$n^2 - P$	$97^2 - 9271 = 9409 - 9271$	$= 138$
$+ 2n + 1$		$= 333$
$+ 2n + 3$		$= 530$
$+ 2n + 5$		$= 729$
$+ 2n + 7$		$= 930$

but 729 is the perfect square of 27, thus we have $x^2 - 9271 = 729$. Therefore $x=100$ and, from above, $P = (x + y)(x - y), 9271 = 123 \times 73$.

The program below does exactly this. Line 9Ø takes on the number to be factorised, which should be greater than 1ØØØ, and as an integer, less than 32,767.

Line 11Ø calculates the starting value of *n*. *e* is the integer value to test if the value of the series member *r* is a perfect square, which is done in the GOSUB 3ØØ routine. If *r* is a perfect square the subroutine returns *f* =1 and drops to Line 25Ø, when the Factors are calculated and printed in Line 28Ø. ●

```
10 '
20 '*
30 '*      James Wilson : Program No.2.  :  June 1989     *
40 '*                                                     *
50 '
60 DEFINT a-y:DEFREAL z:a=0:b=-1:c=0:d=0:mode 2
70 CLS:PRINT #a,"FERMAT'S ALGORITHM TO FIND
   A PRIME FACTOR OF A NUMBER"
80 PRINT #a:PRINT #a
90 INPUT "  Enter the number -";P
100 PRINT #a:PRINT #a
110 nl=FIX(SQR(P)):nh=nl+1
120 PRINT #a,P"comes between"nl"^2 and"nh"^2":PRINT #a
130 r=(nh^2) - P
140 e=FIX(SQR(r)) - 1
150 PRINT #a,"Start of Series,
   "nh"^2 -"P"="r:PRINT #a:PRINT #a,"Next values are : ";
160 WHILE c=0
170 GOSUB 300
180 IF f=1 THEN GOTO 250
190 b = b + 2
200 r = r + (2*nh) + b
210 y=SQR(r)
220 e=FIX(y) - 1
230 PRINT #a,r;
240 WEND
250 PRINT #a:PRINT #a:PRINT #a,r"is a Perfect Square,
   its root is"y:PRINT #a
260 x = SQR(P+r)
270 PRINT #a,"X^2 -"P"="y"^2   therefore X="x:PRINT #a
280 PRINT #a,"and so"P"="x+y"x"x-y" and we have 2 Factors."
290 PRINT #a:PRINT #a:END
300 f=0:'  *** Check for Square, forced Integer match
   to stay accurate
310 IF e^2 < r THEN e=e+1:GOTO 310
320 IF e^2 = r THEN f=1:GOTO 330
330 RETURN ●
```

● Thanks to observant readers who pointed out the slight (ahem) error in last month's program. Line 13Ø should of course have sent the program back to Line 8Ø rather than Line 12Ø. The editor, whose fault it was, has been condemned to spend a fortnight next month wandering the Greek isles in reparation for his sins. Greetings to all our Greek readers – especially George Kassimatis!

ROCK STAR



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GOLD

CodeMasters Software Company Ltd., PO Box 6, LEAMINGTON SPA, CV33 0SH

STRATEGY SOFTWARE

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THE FINAL CONFLICT - the game is a conflict between Nato and the Warsaw Pact in Europe. Options are either two player or solitaire against the computer, 25 different countries involved, over 160 units, infantry, corps, parachute, armoured, cities helicopters, different strengths, effects, supplies, fuel, casualties status, different seasons, city production levels, millions of troops involved, game lasts for weeks, save game, 16 page manual plus more.

SOCCER 6128 - football strategy game which lets you manage any team in the 4 divisions. Options are buy players, sell players, league programme, fixtures, opposition, play match, instructions, league table, accounts, playing staff, save game, 10 different positions, skill, form, goal scorers, injuries, up to 20 players in squad, sackings, over 2000 players, 80 English clubs, 60 European clubs, FA Cup, League Cup, European Cup, UEFA Cup, Cup Winners Cup plus much more. Reviewed in AMSTRAD ACTION July '88.

KURSK the clash of armour - was the biggest tank battle of WW2 in which the Germans had to beat the Soviet army to stand any chance of winning the war. The options are two player or solitaire against the computer. There are over 125 units which are infantry, armoured, corps, artillery, anti tank plus cities which all have different effects in combat. *There are also supplies like troops, provisions and fuel. The object of the game is to capture the key cities* or destroy enemy units. Also save game plus much more.

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CAMEL MICROS
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Telephone: 0392 421105

CHEAT MODE

Freescape heaven: this page, Dark Side; overleaf, Total Eclipse; then Driller

Dark Side

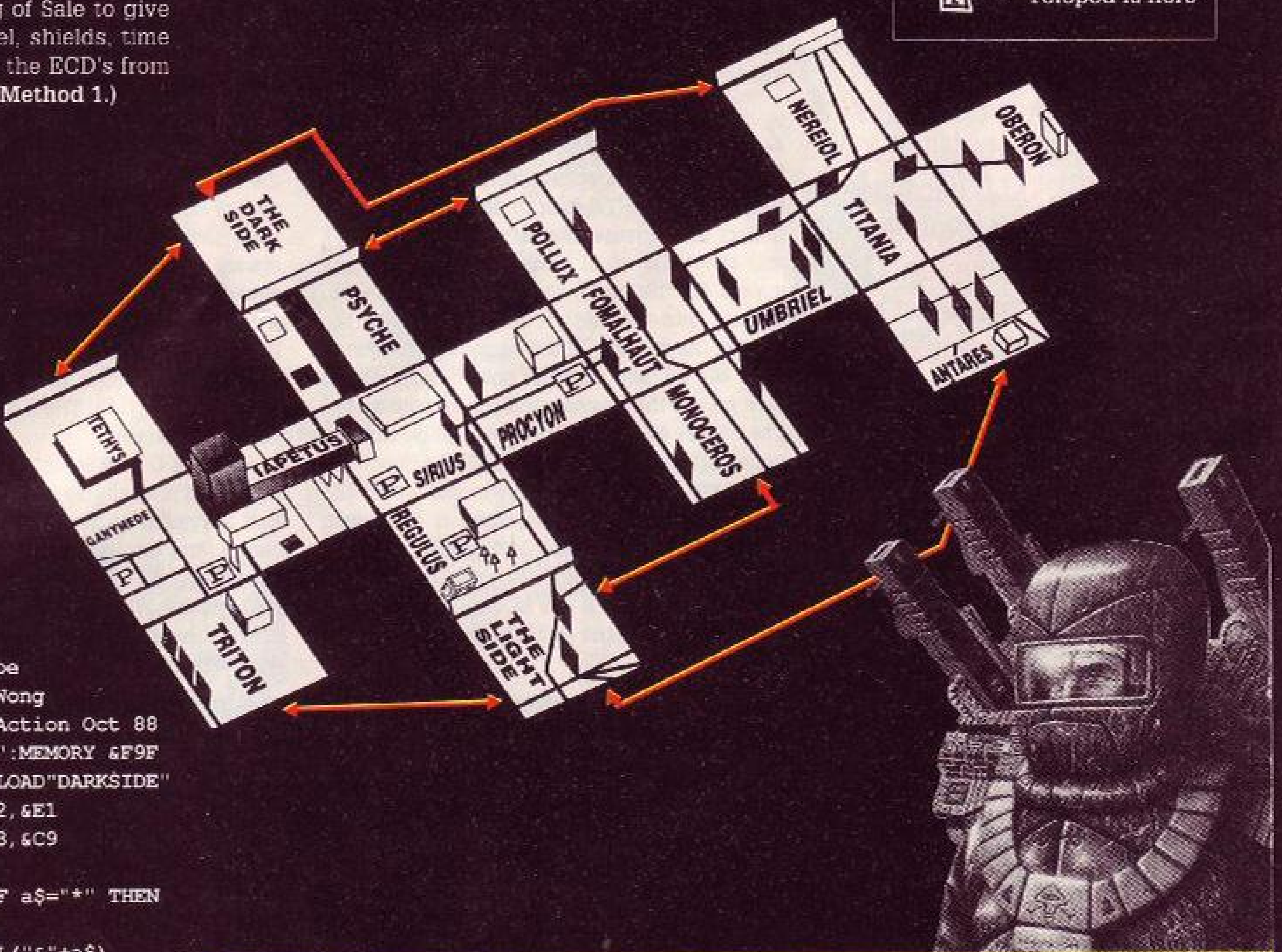
The theme continues as *AA34's Mastergame* is hacked by **Mike Wong** of Sale to give you infinite fuel, shields, time and to prevent the ECD's from regenerating. **(Method 1.)**

Dark Side – the map

Michael Dickinson sent us this superb guide to Incentive's second Freescape epic. We passed it over to the art dept. and they turned Mike's map into this indispensable guide to the *Dark Side!*

Key

- = ECD
- = Prison sensor
- = Plexor tank
- = Telepod is here




```
1 '
Dark Side-tape
2 ' by Mike Wong
3 ' Amstrad Action Oct 88
1Ø OPENOUT"d":MEMORY &F9F
2Ø CLOSEOUT:LOAD"DARKSIDE"
3Ø POKE &1ØØ2,&E1
4Ø POKE &1ØØ3,&C9
5Ø n=&BE8Ø
6Ø READ a$:IF a$="*" THEN
9Ø
7Ø POKE n,VAL("&"+a$)
8Ø n=n+1:GOTO 6Ø
9Ø CALL &FAØ:CALL
&BE8Ø:END
1ØØ 'INFINITE SHIELDS &
FUEL
11Ø DATA 3e,a7,32,7b,6f,32
12Ø DATA Øa,6e,21,18,1b,22
13Ø DATA 8Ø,65
14Ø 'INFINITE TIME
15Ø DATA af,32,2d,6e,32,3e
16Ø DATA 6e
17Ø 'PREVENT ECDs REGENER-
ATING
18Ø DATA 21,ØØ,ØØ,22,19,7a
19Ø REM LEAVE
2ØØ DATA c3,62,1c,* ●
```

Mike Wong's poke has been adapted to run with the disk version of Incentive's game. Type in the poke and RUN it with the *Dark Side* disk in the drive.

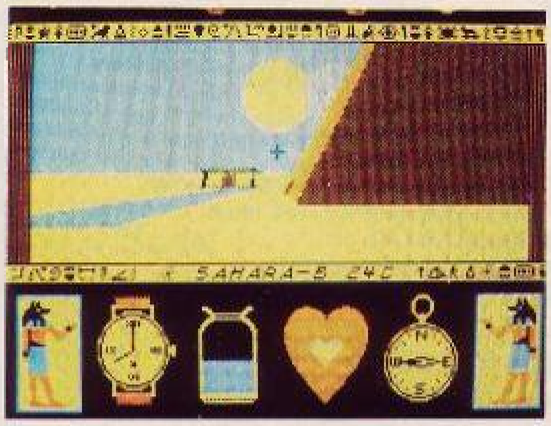
```
1 ' Dark Side-disk
2 ' Amstrad Action June 89
10 MEMORY &3FFF
20 LOAD"dark",&4000
30 DATA 3e,c9,32,0b,40,cd
40 DATA 00,40,af,32,81,00
50 DATA cd,51,00
60 'Infinite Shields & Fuel
70 DATA 3e,a7,32,7b,6f,32
80 DATA 0a,6e,21,18,1b,22
90 DATA 80,65
100 'Infinite Time
110 DATA af,32,2d,6e,32,3e
120 DATA 6e
130 'Prevent ECD's regenerating
140 DATA 21,00,00,22,19,7a
150 'Leave next line
160 DATA c3,62,1c
170 FOR n=&BE80 TO &BEAC
180 READ a$
190 a=VAL("&"+a$)
200 POKE n,a
210 NEXT n
220 CALL &BE80 ●
```

Total Eclipse – the complete solution!

Here at last is the complete, absolute and utterly, utterly ultimate solution to Incentive's Freescape 3D Mastergame *Total Eclipse*.

Now there's more than one way to save the world, as you'll know if you've tried, but we chose this joint effort from GRAHAM WILKIN and JASON HIGHFIELD because it's the most complete, explores the pyramid very thoroughly indeed and shows you almost all the tricks and traps. We've accompanied it with a brilliant exclusive specially commissioned map from IAN THOMPSON. So even if you don't do it quite our way, you should still find Graham and Jason's playing guide helps a great deal. We did!

Remember that as soon as you've done a tricky bit to press I, which pauses the game. If you're really clever you'll also save the game by following the instructions there. It only takes a few seconds, and you'll be ever so glad you did!



● A plane view of the pyramid

1. The adventure begins

You begin looking at your **plane** and the **Pyramid.** Climb on the right hand wing of the plane and walk towards the cockpit to find the first Ankh. Then walk round the pyramid to its back door. Enter and shoot the blocked door: then go back out to Sahara B. Work your way back round to the main entrance (H-A) and go inside.

2. Enter if you dare!

Fill up with water, collect second Ankh, and go through the NORTH door to the chamber (H-B). Collect the treasure, then step back, face EAST and shoot the small block on the floor. Stairs appear for the upper door on the EAST wall. Ascend into the next room (H-G). Shoot the head of the mummy in the open sarchogagus to close the lid, and stop the poison darts. When safe, collect the treasure and top up your water. The barrier on the NORTH door can be climbed under bringing you into room (H-D). Shoot the arrow on the wall, look down and shoot the sloping wall six times to make it disappear. Descend the stairs and look EAST. See the plinth against the wall? Go to the right hand side of it, and push it in a NORTHWARDS direction. This reveals the entrance to the **ILLUSION** section.

● The grave of 'Twotombkahmoon'

Key

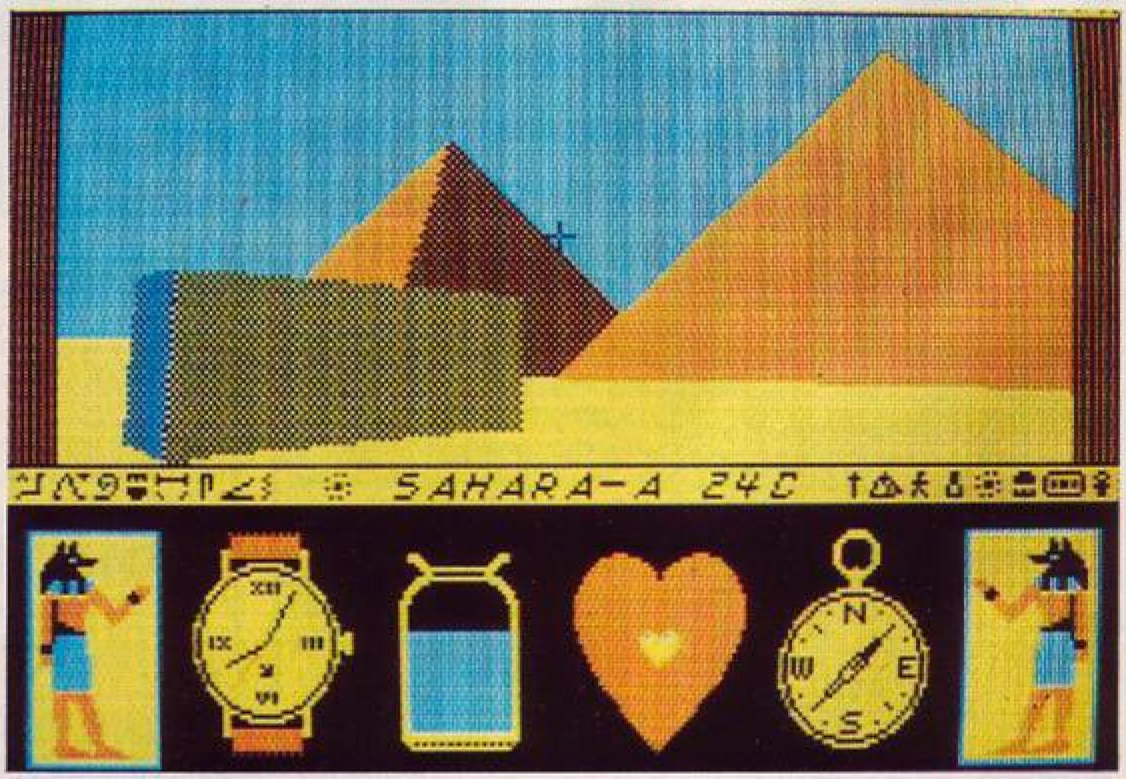
R=RAMESSES; H=HORAKTHY; I=ILLUSIONS; P=PHARAOHS; N=NEPHYTHS; K=KEPRESH; S=SHABAKA.

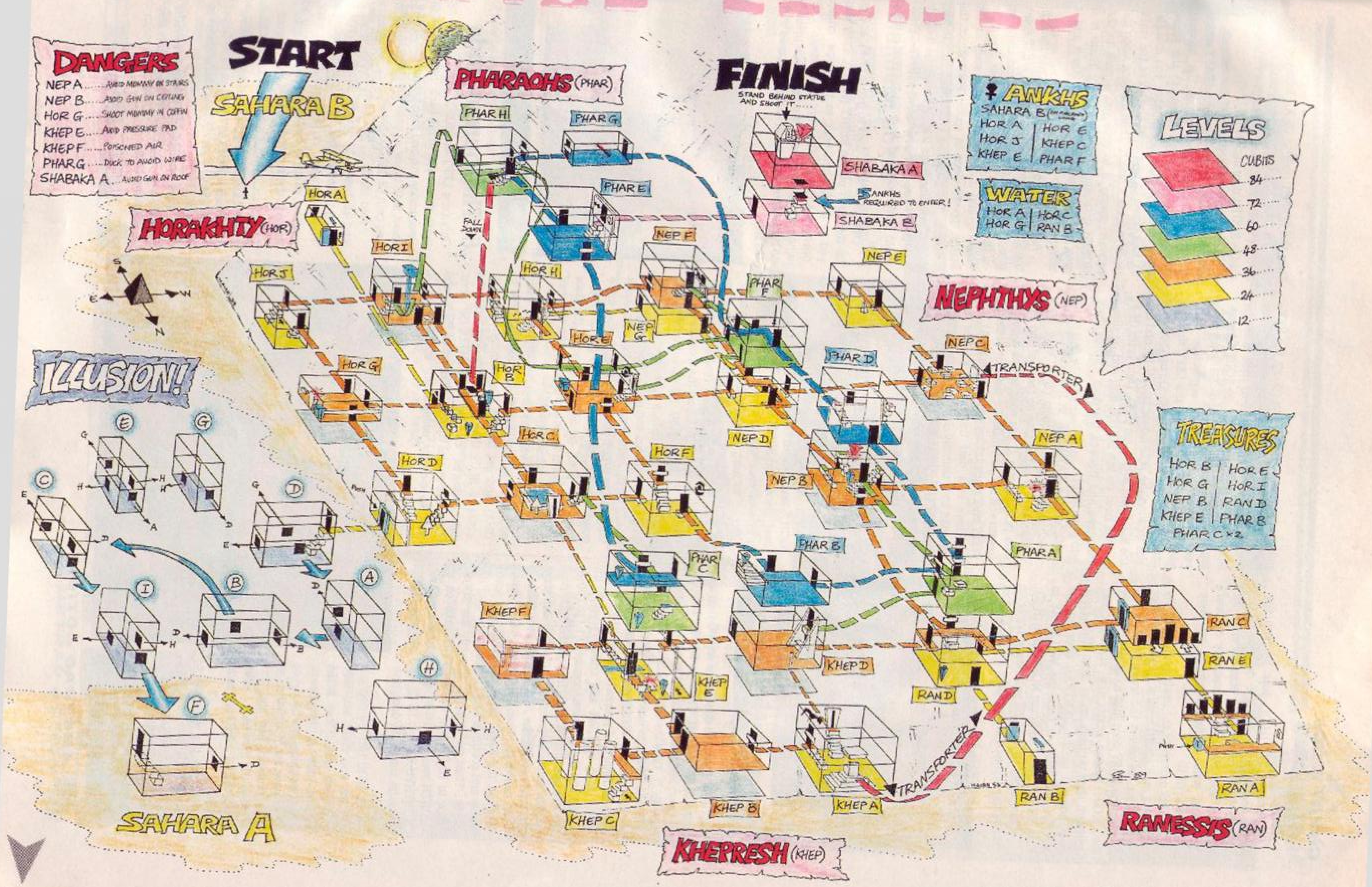
3. Seeing is believing – or is it?

Go through this doorway into room (I-D), down the stairs and turn NORTH to face a black square on the wall. Walk at the square and you pass through into (I-A). Go EAST into the square here and enter room (I-B). Walk into the square on the SOUTH wall to get to (I-C), followed by walking into the NORTH facing square in order to reach (I-I). A U-turn here, followed by walking through the north square, brings you into room (I-F). The EAST stairs bring you out into Sahara A.

Outside U-turn again, and look at the building you've just left. Go around the back and you find a symbol on the ground: shoot it in the centre, and return to the front of the building. Re-enter (I-F), descend the stairs and walk through the WEST square. Once in room (I-D) ascend the stairs and go through the WEST door to gain access to chamber (H-D).

Now turn the page to continue the adventure...



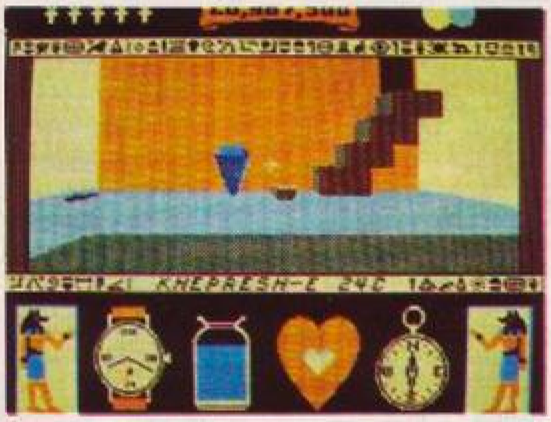


DANGERS
NEP A......AVOID MUMMY ON STAIRS
NEP B......AVOID GUN ON CEILING
HOR G......SHOOT MUMMY IN COFFIN
KHEP E......AVOID PRESSURE PAD
KHEP F......POISONED AIR
PHAR G......DUCK TO AVOID WIRE
SHABAKA A......AVOID GUN ON ROOF
START
SAHARA B
PHARAOHS (PHAR)
FINISH
STAND BEHIND STATUE AND SHOOT IT.....
SHABAKA A
5 ANKHS REQUIRED TO ENTER!
SHABAKA B
ANKHS
SAHARA B
HOR A | HOR E
HOR J | KHEP C
KHEP E | PHAR F
WATER
HOR A | HOR C
HOR G | RAN B
LEVELS
CUBITS
84
72
60
48
36
24
12
HORAKHTY (HOR)
ILLUSION!
NEPHTHYS (NEP)
TRANSPORTER
TREASURES
HOR B | HOR E
HOR G | HOR I
NEP B | RAN D
KHEP E | PHAR B
PHAR C x2
FALL DOWN
PHAR H
PHAR G
PHAR E
PHAR F
PHAR D
PHAR C
PHAR B
PHAR A
HOR A
HOR I
HOR J
HOR H
HOR E
HOR G
HOR B
HOR C
HOR D
HOR F
NEP F
NEP E
NEP G
NEP C
NEP D
NEP A
NEP B
KHEP F
KHEP E
KHEP D
KHEP C
KHEP B
KHEP A
RAN C
RAN E
RAN D
RAN B
RAN A
SAHARA A
KHEPRESH (KHEP)
RANESSIS (RAN)

Go upstairs into (H-D), duck beneath the barrier, and take the SOUTH door to (H-G). Then go WEST downstairs into room (H-B). Shoot the slab blocking the stairway on your LEFT, and when it dissapears go up them SOUTH into (H-I).

Turn left and shoot the beam supporting the chest (stay well clear!) until it falls to the floor allowing you to collect the treasure. Next, go through the EAST door into room (H-I). Collect the ANKH hidden under the staircase you descend, then go back up to room (H-I). From here proceed to the CENTRAL door on the NORTH wall and out onto the WALKWAY in room (H-B). Cross this going NORTH into (H-C).

Once safely in (H-C) fill your water bottle up by wading in the pool, then take the WEST door



● I'm sure I've been here before... or have I?

into (H-F). Shoot the eye on the wall, U-turn and return to (H-C) EAST. Then go SOUTH through the door, back across the walkway (H-B) and to room (H-I). Take the LEFT door on the NORTH wall into (H-B), go downstairs, cross the room, go through the WEST door by climbing the stairs and you find yourself in room (H-E).

In (H-E) turn left and collect your fourth ANKH and the treasure (possibly £1,125,000 so far). Go upstairs (WEST) through the SLIM door to gain access to room (P-F), turn left and shoot the rope holding the ANKH (your fifth). When it falls collect it from the floor, then return through the EAST door into (H-E). Go downstairs and continue EAST through the door into (H-B). Then go upstairs through the SOUTH door to (H-I). Take the CENTRE door on the NORTH wall into (H-B), go along the walkway NORTHWARD into (H-C), and carry on NORTH through the SLIM door into (K-E).

In (K-E) turn 90 degrees left as you enter and face the side wall. Shoot it ten times until it disappears, then examine the floor. You can now avoid treading on the pressure pad and activating the dart trap. Collect your SIXTH ANKH and more loot.

Go up the staircase to the NORTH door and enter (K-B). Use the EAST door to reach (K-C), then turn LEFT

● I hate it when my mummy gives me hard stairs!

and go down the staircase to collect the SEVENTH ANKH hidden underneath. Use the WEST door to get back to (K-B) then take the SOUTH door back into (K-E); go SOUTH avoiding the pressure pad into (H-C). Tank up with water before going SOUTH across the (H-B) walkway and into (H-I). Use the LEFT door on the NORTH wall to reach (H-B). Go up the stairs and through the WEST door into (H-E), and use the SLIM door to get into (P-F). Then enter (N-F) via the door on the SOUTH wall and go down the steps and through the door UNDER them into room (N-D).

Cross the CATWALK to the NORTH door, which delivers you to room (N-B). Wait for a while: there is a dart trap on the roof and treasure in the centre. If you wish to risk it get the treasure ;if not just make for the exit under the WEST wall stairs taking you to room (N-A).

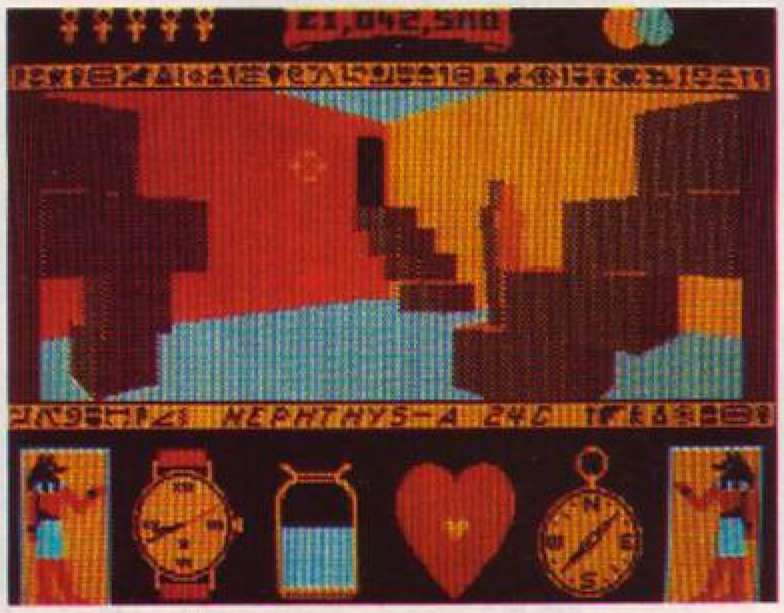
There is a dart trap here too, this time guarded by a mummy. Run downstairs and get behind it to make sure you're safe, then climb onto the stairscase behind him and follow this flight up to (R-C) and the second level.

4. The only way (is) up!

Take the FOURTH door from the LEFT to gain entry to (R-A), turn RIGHT to face EAST and go through the first MEDIUM sized door on your RIGHT. Walk ahead NORTH and down to floor level, if you turn RIGHT to face EAST a block is in front of you. Push this block in a WESTERLY direction to form a bridge for later. Now take the SOUTH door into (R-E). Shoot the block in the SOUTH-EAST corner to reveal a door, go through it into (R-D). Collect the treasure before going NORTH into (R-B). Fill up with water. Go NORTH again into Sahara B, walk around to the front of the Pyramid and go into (H-A).

Go from here into (H-B), then upstairs through the WEST door into (H-E) and up more stairs through the SLIM door to get to (P-F) . From this point go SOUTH through the door into (N-F) down the stairs and through the door UNDER the stairs to (N-D).

Cross the walkway to the NORTH door and go into (N-B), turn WEST and take the door to (N-A), and get behind the mummy. Take the stairs to (R-C), then the fourth door from the left, followed by the first MEDIUM door. Continue on this time NORTH across the bridge you so cleverly constructed, and into (R-C).

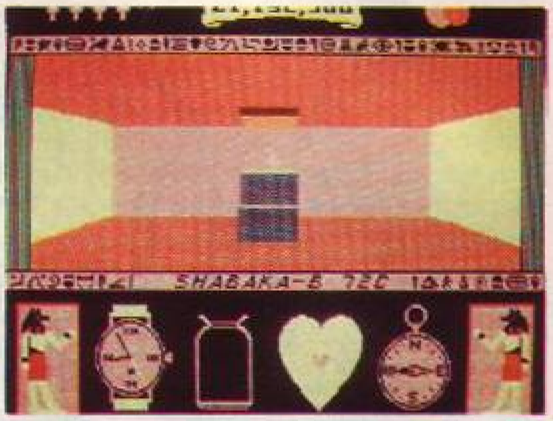


Take the SOUTH door to (N-A), followed by a dash for the RIGHT hand staircase on the SOUTH wall, which takes you to (N-C). Then go via the SOUTH door into (N-E).

Walk to the exact centre of the catwalk, – check by looking at the door to the EAST which is halfway across. Then shoot the catwalk which pivots giving you access to the aforementioned EAST door. This takes you into (N-F), look down to your right and shoot the small block to make a match. Then it's back along the catwalk, swing it to give you a path to the NORTH door and back into (N-C). There is a grey rectangle on the wall: walk into it and it transports you to (K-A).

Ascend the SOUTH stairs and pass through the SLIM door into (K-D); go up the WEST stairs into (P-A). Face the EAST doors and climb up on the block and look at the top door. Shoot the doorway and immediately run as soon as the stairs appear. Once in room (P-B) collect the treasure, then go to the WEST wall, turn to look at the Dais. Shoot the middle two steps (bottom one first). You can now crawl into (P-C), and could have collected over £2,350,000 in treasure.

Use the SOUTH door to get to (P-E), and go up the stairs on the RIGHT (WEST). They take you to (S-B). Then walk to the steps, crouch down and climb on in very small steps. Then when you have gone to the very edge press 'H' to burst through the roof and gain access to the shrine.



● Tomb it may concern

5. The journey ends

Only turn LEFT or RIGHT, as any other movement causes you to fall back into (S-B) for good. Once inside run and hide behind the Statue and shoot it 45 times, or until the curse is lifted and you gain £2,000,000 bonus.

And that's it: you have saved the world – and all before 10 o'clock! What do you fancy doing till lunchtime? Bit of interplanetary space travel, perhaps, or just take things easy and write a string of bestsellers about your adventures in the sacred pyramid? ●

Total Eclipse is published by Incentive Software (☎ 073 5677288) at £9.95 (tape) and £14.95 (disk). It was Mastergame in _AA38_.

Also available are the earlier _Driller_ and _Dark Side_, both of which were also Mastergames.

Playing tips

In **Amethyst** there is a tower with a block on top of it. Land on this in the jet and your shields and energy receive a boost. Also in Amethyst there is a store shed. Shoot the pyramids on the floor first because the suspended ones have special properties.

The number 17 on the wall in **Obsidian** means that you must clear 17 sectors of gas before the switch appears.

To cross the crevasse the block needs to be shot or pushed over it. Pushing it over gives a better score. The shed has a rear entrance and it is safer to enter through that.

To travel from Amethyst, through Lapis Lazuli and into **Emerald** you must first shoot the pyramids in **Lapis Lazuli**. Move through the gaps that you have created until you reach the wall. Rise up and look over the wall so that you can see the block and shoot it. The wall disappears and so does the door to Emerald. Move forward until you are past where the wall should be and shoot the block again. The wall reappear, as does the door.

The tree-like object in Emerald can be shot to increase your energy and shields, but it disappears after it has been hit several times.

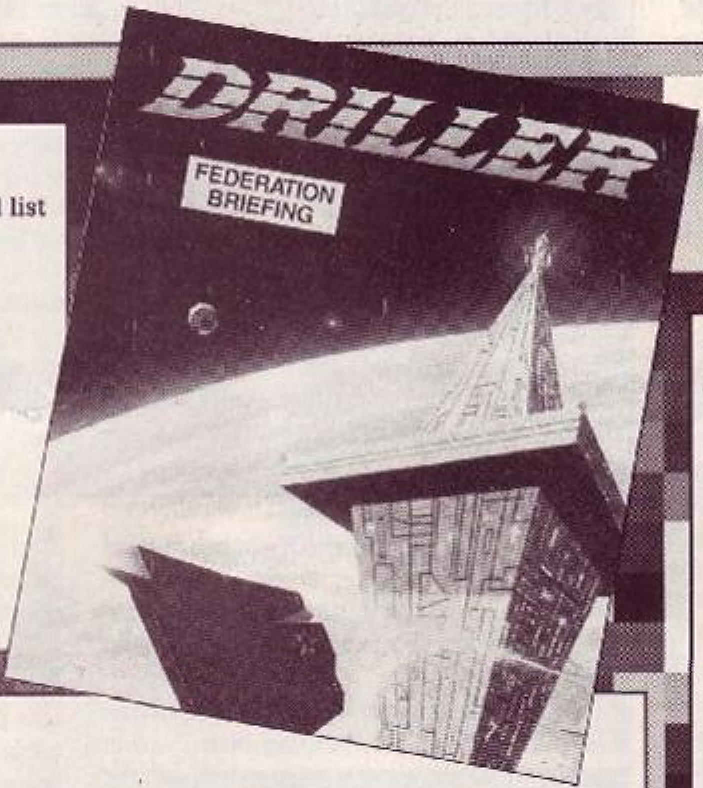
The laser beacon in **Topaz** can be turned through 90 degrees by shooting it.

In **Trachyte**, move along the force field at a 45° angle until the sound changes. Face the forcefield and move through it. Shoot the bottom concentrator crystal, the central crystal and then the right crystal so that only the blue pyramid to the right remains. Shoot the floor to destroy the generator and then you can position the drilling rig.

Multiface pokes

MIKE WONG this time, with an essential list for all you lucky Multiface owners.

Addr	Poke	Effect
6f7b	a7	|
6eØa	a7	|
658Ø	18	|
6581	1b	| Inf fuel+shields
6e2Ø	ØØ	|
6e3e	ØØ	| Inf time
7a19	ØØ	|
7a1a	ØØ	| Stops ECDs |regenerating



Pokes

PHIL HOWARD of Mapperley sent in this poke for infinite shields and energy for the tape version of Incentives *Mastergame*. It is entered using Method 1 (see previous *AAs* for details of how to input tape pokes).

```
1 ' Driller - tape
2 ' by Phil Howard
3 ' Amstrad Action June 89
10 DATA 21,2d,ad,36,c3,23
20 DATA 36,0e,23,36,be,c3
30 DATA 00,ac,c4,14,ac,fb
40 DATA 3e,00,32,b0,68,32
50 DATA 55,67,32,f4,6b,32
60 DATA 87,6d,c9,21,00,40
70 DATA 11,00,08,3e,16,cd
80 DATA a1,bc,21,7f,41,36
90 DATA 8f,21,cc,41,36,b3
100 DATA 21,2c,42,36,f9,c3
110 DATA 05,40
120 y=0:MODE 1
130 FOR x=&BE00 TO &BE3D
140 READ a$:a=VAL("&"+a$)
150 POKE x,a:y=y+a:NEXT
160 IF y<>&16D1 THEN 180
170 CALL &BE21 ●
```

Using the same addresses, the ***AA* TEAM** came up with this poke for the disk version which does exactly the same.

```
1 ' Driller - disk
2 ' by RpM,GBH and Phil Howard
3 ' Amstrad Action June 89
10  DATA 11,00,00,0E,41,21
20  DATA 00,01,DF,a6,be,21
30  DATA 94,be,22,3D,02,C3
40  DATA 00,01,F5,AF,32,B0
50  DATA 68,32,55,67,32,F4
60  DATA 6B,32,87,6D,F1,C3
70  DATA 9F,48,3C,C0,07
80 chk=0
90 FOR x=0 TO &28
100 READ a$:a=VAL("&"+a$)
110 POKE x+&BE80,a
120 chk=chk+a
130 NEXT
140 IF chk<>3982 THEN 180
150 PRINT"Insert Driller disk and press
space"
160 WHILE INKEY (47)=-1:WEND
170 CALL &BE80
180 PRINT"Data error" ●
```

Co-ordinates

DAVID and **SARAH DURRENT** of Peterborough present a list of the coordinates that the gas rigs should be teleported to. If the gas doesn't clear at this point then rotate 9Ø° and try again. They also offer instructions on how to complete the final sector, Trachyte.

Sector	X	Y
Alabaster	**4496**	**4Ø96**
Amethyst	64ØØ	6Ø5Ø
Aquamarine	**512Ø**	**2896**
Basalt	Ø93Ø	224Ø
Beryl	**71Ø4**	**3512**
Diamond	4Ø96	3472
Emerald	**3746**	**4Ø96**
Graphite	168Ø	6336
Lapis Laz	**4Ø96**	**3746**
Malachite	5952	5Ø26
Niccolite	**Ø512**	**1698**
Obsidian	6656	63Ø6
Ochre	**18Ø8**	**672Ø**
Opal	7394	7744
Quartz	**2768**	**1792**
Ruby	3746	255Ø
Topaz	**3Ø77**	**131Ø**
Trachyte	4496	6912

PILGRIM

The winners of the Adventurer of '89 are announced...

Pilgrim Adventurer of the Year 1989

At last! The answers – and the winners!

We've been flooded with entries for this competition – and the Pilg was quite stunned by the number of you who *almost* got every question right! Here are all the answers, together with some notes on how you measured up to my wickedly exacting standards...

And the winner, Ladies and Gentlemen, is...

The Amstrad Adventurer of the Year 1989 is – 'scuse me while I try to rip open this here gold envelope, oh the suspense is killing me... And the winner is... STUART WHYTE of Timperley in Cheshire.

Stuart managed the extraordinary feat of getting only one answer wrong in the entire competition – he thought that *Kentilla* was the first UK adventure with interactive characters! Never mind, Stuart, you still get the *AA* Adventurer of the Year Trophy, bags of free software, and undying fame.

The two runners-up are DARREN STEPHENS of Sittingbourne in Kent and the notorious adventuress JOAN PANCOTT from Weymouth.

Congratulations to all who took part – there was very little in it at the top end of the entries.

You can read more about the *AA* Adventurer of the Year when we join Stuart on his prize day out at MAGNETIC SCROLLS.



● Stuart Whyte, *AA's* very first Adventurer of the Year

How hot is your games history?

Hewson's **Fantasia Diamond** boasted an interactive toy robot. You cast an IBM in Level 9's **Price of Magik** and got no tea in **Hitchhiker's Guide to the Galaxy**. Wristbands were all the rage in **The Pawn** and Nightingales caused trouble in **Snowball**. Snowball was also notable, by the way, for being the first UK adventure game to be given its own adventure column – the now defunct Personal Computer News actually ran a series in which various journalists played the game in turn. Steamed rat was on the menu in **Lurking Horror**.

Aha! the taxi... Almost everyone plumped for Terrormolinos, where there is a taxi outside, but you don't actually hail it. I was thinking, of course, of



Sherlock, where you hail a hansom cab outside your apartment in Baker Street. If you preferred to be a little further north of Baker Street, however, you must have been playing **Hampstead**.

As for learning to fly, here again were numerous suggestions, ranging from Price of Magik to Knight Orc. Lloyd Wood of Peterborough, however, obviously knows all about **Urban Upstart**, an early Pete Cook adventure from Richard Shepherd Software. The best thing about that game was the enormous crowd of cats that kept following you about... well, you did have to pick up that red herring, didn't you!?

Who or what?

Thorin, of course, sang about gold (constantly); **Arnold** went to somewhere else, and the **player** (a journalist) went to the ball in Suspect. A **Gremlin** died in the blender (hope they washed it out afterwards), **Falkor the Luckdragon** flew over the desert, **Redhawk** (or Kevin Oliver, in his everyday identity) said Kwah! and not, as J. Mason of Bradford suggested, Princess Fergie. She says 'Yah!'

The **old woman** in Spytrek made a habit; **Arthur Dent** AND **Prosser** lay in front of the bulldozer in HHGTTG, and your **sword** came when you said Kentilla... in Kentilla, of course.

Many people have sprung from frogs in adventure games. Various readers offered **Beren** in Heroes of Karn, the **prince** in Lords of Time, and the **Princess** in Leather Goddesses of Phobos. No-one mentioned the **Prince** in King's Quest IV, but perhaps I was hoping for a bit too much there. Points were given for any one of the above answers.

Name those games!

Lots of possible answers here. A correct entry might have read: **The Boggit, Valkyrie 17, Snowball, Kentilla, Philosophers Quest, Hitchhikers Guide to the Galaxy, Seas of Blood, Adventureland,** and **The Bards Tale.** It was interesting to note that Scott Adams, once considered the great father of Adventure, is remembered by Amstrad owners chiefly for Questprobe III – not one of his best games, to be frank.

Fill in the letters

Mindshadow, Lord of the Rings, Urban Upstart, Message from Andromeda, Suspect, The Hobbit, The Boggit, Emerald Isle, The Bards Tale, and **Jinxter.**

Spot the shot

The first picture came from a pre-production copy of Warlord from Interceptor. The second came from Souls of Darkon – and I put it in deliberately so that if you ever see a screen like it in front of you, you will know that doom is nigh. The final picture was from Tomb of Kuslak. Everybody got this right.

The Nitty Gritty

Almost everyone knew that NPC stood for **Non Player Character**. **Look** is abbreviated to L. Solving mazes is easy: **drop objects** when all

the descriptions are the same, and **construct a table** of exits against directions, with numbered locations at the intersecting tabular positions where there are differences of location description. There were many answers to questions (e) and (h), including **Zork** in (e) and **Colossal Cave** clones galore in (h).

General knowledge

RPG stands for **Role Playing Game** and not Rampant Pornography, Geraldine as one sick perv suggested. Stick to playing Barbarian, chum. **Mindshadow** has no RPG influence and Scott Adams programmed his first game on a **TRS80.**

Crowther and Woods wrote the original Colossal Cave adventure – in **Fortran** and was hence not only the earliest adventure but also, knowing Fortran, probably the longest ever in terms of source code. MUD stands for **multi-user dungeon** and you'd log onto Shades via **Micronet or Microlink**.

Solving the puzzle

Four items to get the babel fish; **Tarjan** to enter the Mad Gods temple in the Bard's Tale; say **frog** to Tarzan in Mordon's Quest; set the microwave on **HI** and do the chinese takeaway for at least four minutes in Lurking Horror, and hand your **hat** to the lady in Rick's Cafe.

Ah... the planks. I was actually thinking of the boards in the Pawn (for which you need **nothing** – you just close the door), but there are a number of other possible answers relating to other games, including your **hands** in The Experience.

The first of...

The first Level 9 game to have graphics was **Emerald Isle.** There are a number of contenders for the first RPG game for the Amstrad. Several people got courtesy marks for mentioning either Ring of Darkness or Swords and Sorcery but to be honest I think the only cast-iron answer is **The Bards Tale**, which allows you to create a party. I seem to remember that the other two games offered only one player character. Since no-one put The Bards Tale, however, the exact ruling on this remains academic.

The first Infocom game was, of course, **Zork;** the first Mag Scrolls game was **The Pawn**; **The Boggit** was first to satirise The Hobbit, which was in turn the first UK game with interactive characters. It was *not*, however, the first game to have graphics, which was Phipps Associates **Knight's Quest**.

Last but not least, for extra points, Zork was of course programmed by **Marc Blank** and **Dave Lebling.**

Old gold – adventures in history, part III

The Pilgrim hands over the reins for a month as PAT WINSTANLEY recounts the rise of 'home brewed' software.

As the supply of commercially released adventures dried up, puzzle-starved players turned to the home-brew market to satisfy their addiction. Overshadowed by the big boys, individuals had been quietly beavering away writing their own games, which were distributed to a small but select band of enthusiasts.

One such author was Colin Harris of Nemesis (now known mainly for his Bonzo range of disk utilities), whose output of home-brewed adventures was nothing short of miraculous to the addicts undergoing voluntary cold turkey.

Beginning with *The Trial of Arnold Blackwood*, Colin went on to write a whole series of games featuring the character.

Also from Colin's keyboard came *Angelique: A Grief Encounter*, one of my all-time favourites. Angelique's task is to reunite herself with her beloved Arnold after being stranded by a plane crash and features such delights as using the ladder in her stocking to climb out of a crater! Although simple by today's sophisticated adventuring standards, Colin's creative touch and distinctive humour (not to mention the excruciating puns) make solving his games a pleasure and provide real entertainment value.

Enter the fanzine...

As the supply of commercial outlets diminished, fanzines began to play an increasingly important role for the adventurer. Publications such as Orcsbane and Adventure Probe offered the platform needed by the home-brew producers with tightly defined readerships and the chance not only to advertise games but also to have them playtested and reviewed.

One of the most prolific GAC users was Tony Collins who was not content with producing several games of his own (*Nythyhel* and *Theseus*, to name two), but also developed a system of matching people with ideas to people with programming skills through his 50:50 Club.



● *Angelique* – Colin Harris' witty *Grief Encounter*

Another talented writer, David Oya, produced a series of humorous fantasy adventures featuring a character by the name of Flook while Neil Scrimgeour let the *The Lost Phirious* trilogy loose upon the adventuring fraternity. The series was set in space, the Phirious being a lost spacecraft. One nice touch was that when the player typed 'Examine Me' the response came back that you were fairly standard, with the requisite three fingers on your hand!

Lords *and* Ladies of Adventure

Around this time the women started to get a look-in with *The Black Knight* from Mandy Rodrigues (current editor of Adventure Probe) and *The Case of the Mixed-Up Shymer* by Sandra Sharkey. The latter concerns the unusual topic of nursery rhymes gone wrong and had many grown men (usually) and women (less frequently) frantically trying to recall childhood memories to solve the puzzles and complete the game. A certain national adventure columnist (who shall remain blameless, to spare his blushes *(not me, not me! – The Pilg)*) even looked up the title in a dictionary, not realising the pun involved!

Humour as a theme seems to run consistently through home-brewed adventures - not the excruciating farce of Fergus McNeill's *Boggit* but more subtle leg-pulling and teasing. Perhaps the authors are taking a backhanded swipe at the serious money-making attitude of commercial software houses. In fact, making money is usually a subordinate aim for the successful home-brewer – the authors are generally avid adventure players as well as creators and gain tremendous pleasure from the feedback inherent in a small, enthusiastic community.

For those authors still beavering away with GAC and PAW, there can be no greater thrill than the phone call out of the blue...'I really enjoyed your last game! When is the next one coming out?' ●

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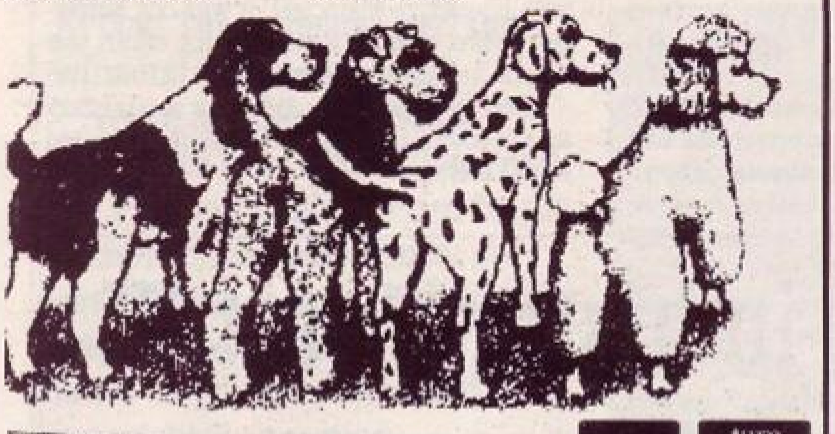
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BONZO SUPER MEDDLER continues as the most complete TAPE to DISC transfer utility. Recently revised, it now includes a database of all verified transfers - currently 880 TRANSFERS ! GUARANTEED to TRANSFER MORE games than any other program - POSITIVELY!
BONZO does the transfer - and you play your games from DISC. Here's a few of the 880 put to disc with BSM, 464/664/6128;
ANTIRIAD, ARKANOID, ARCTIC FOX, BARBARIAN, BMX SIMULATOR I & II, BOBSLEIGH, BOBJACK I & II, BIGFOOT, CYBERNOID II, CAULDRON I & II, DANGERMOUSE, DARKSIDE, DRILLER, DARTS - 180, DIZZY I & II, DANDY, EQUINOX, ENDURO RACER, FERNANDEZ MUST DIE, FOOTBALLER OF T' YEAR, GREMLINS, GUADAL CANAL, GRAND PRIX SIMULATOR, 3D GRAND PRIX, HOPPING MAD, HACKER, HIJACK, IKARI WARRIORS, INVASION, JETSETWIL, JACK NIPPER I & II, JOE BLADE I & II, KUNG FU MASTER, KNIGHTMARE, LEADERBOARD, LIGHTFORCE, LIVING DAYLIGHTS, MOONBUGGY, METAL ARMY, MONOPOLY, NEXOR, NINJA SCOOTER SIM, PYJAMARAMA, PEGASUS BRIDGE, REFLEX, RED OCTOBER, REDHAWK, RED MOON, SCRABBLE, SUPER STUNTMAN, STEVE DAVIS SNOOKER, STAR RAIDERS II, SWORD SLAYER, STORMBRINGER, STAR TROOPER, SPINDIZZY, STRYFFE, TTRACER, TOPGUN, TOTAL ECLIPSE, TETRIS, TANIUM, THRUST I & II, V, VAMPIRE, WEREWOLF SIM, XOR, ZUB.

and OVER 800 others!

Isn't it time you got the BEST? Send your disc-based utility to be transformed into BSM & HACKPACK for just £8.00. If you haven't got one, then the BSM & HACKPACK with full instructions, details of over 800 transfers, and our current NEWSLETTER,

£12.50 Inclusive. Supplied on disc.

BONZO BLITZ - SPEEDLOCKS TO DISC

"HIGHLY RECOMMENDED" - WACCI, 12/87

BONZO SUPER MEDDLER will cope with a large number of SPEEDLOCKS, but for the enthusiast we developed BONZO BLITZ - the first to deal with all forms of SPEEDLOCK. It doesn't need an expanded CPC - works on 464/664/6128 - and still EQUALS any other utility - WITHOUT juggling or fussing. A database on this one too! A FEW: ALIEN HIGHWAY, ARMY MOVES, ATV SIMULATOR, BEACH HEAD 1 & 2, CATCH 23, DEATHSTALKER, DIZZY, ELEKTRAGLIDE, FRUIT MACHINE SIM, F15 EAGLE, GAMEOVER 1 & 2, GREAT ESCAPE, HIGHWAY ENCOUNTER, MATCHDAY I & II, MADBALLS, METROCROSS, REVOLUTION, SALAMANDER, SLAINE, SCRABBLE, SCALEXTRIC, SUPERHERO, TRANSMUTERS, WIZBALL, WEC LE MANS, etc. WORLD CLASS LEADERBOARD and ROADRUNNER although "multi-loaders" will completely transfer if you have BSM to assist! Other "multi-loaders" - main file only. BLITZ was first in with the "NEW" SPEEDLOCK variation - and there's dozens of compilation tapes using this, like MAGNIFICENT SEVEN & GAME, SET & MATCH II.

£12.50 inclusive. Supplied on disc.

APRIL MAY ONLY — **BSM & HPACK + BLITZ TWO DISCS, all info £22.00 inclusive.**

UPGRADES = BSM or BLITZ, **£3.00** [return original disc!]

BONZO's FLASHPACK

"Best all round basic extension program seen" WACC1 3/88

FLASH BASIC uses 70 RSX's in a fast versatile and very powerful implementation. It is relocatable and thus usable with hardware expansions. COMPACT - it uses only 8K of memory; and a "mini" version uses only 3K! YOU can produce "stand alone" programs written in FLASH BASIC! BONZO's FLASH PACK is a very full DISC containing FLASH BASIC, DEMOS and UTILITIES written in FLASH BASIC. The DISC EDITOR is one of the best you'll find - anywhere!

Some of the RSX's employed in FLASH BASIC are almost mini-utilities themselves: here's a few
MEMORY COMMANDS - I M. EDIT, (editor!), I M SEARCH, I M LIST, I M MOVE
DISC COMMANDS - I D FORMAT, I D READ, I D WRITE, I DEPRO, I HEADER
PRINTER COMMANDS - I POSTER, I P CDUMP, I P ON, I PDI, I PSEND,
SCREEN/OTHER - I BIG (big chars), I BOX, I COLOUR, I PAUSE, I LINE, I SLEEP, I SORT,
I MENU, I CALL, I SCR, PUT, ISCR. GET, I KEYS, I INFO.

Documentation supplied is very extensive, and the built-in HELP can quickly locate the area of interest and send information to the screen or printer.

BONZO's FLASHPACK £12.50 inc Disc
A SECOND DISC of other major utilities is also now available
BONZO's BIGBATCH £12.50 inc. Disc.

This contains a very fast and flexible DATABASE, a superb FOOTBALL POOLS PREDICTOR, both written in FB, plus a user-friendly and memory saving SCREEN & SPRITE DESIGNER. It is not necessary to have the FLASHPACK disc to take advantage of **BIGBATCH.**

BONZO's DOO-DAH

"This is the best I've seen in a long while... I recommend it"
- AMSTRAD ACTION, JUNE 1987

FEATURES BIGBONZO FORMAT
A REALLY USABLE 203K per SIDE FORMAT, with all the support files to maximise it's use PLUS - All the disc housekeeping features that you could possibly want, including "Cloning", Directory & Sector edit, Disc search, Formatting, Read sectors, Filecopy, etc ALL FUNCTIONS are effective on normal, enhanced, and the majority of "funny formats"

MANY UNIQUE FEATURES. Supplied on **DISC**

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NEMESIS A.A — **ALL ORDERS sent by return: Cheque/P.O/Access** — **TEL: (0933) 623967**
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AA Buyers Guide

So you want to spend some money on your CPC? Well, first of all you need to know what's available. And here's the place to find it. We've listed the best and best known programs in each category, and given you the producer; the phone number; the price; the issue in which the item was reviewed; and last but not least, a brief description of the program's features and, where appropriate, shortcomings.

Don't take our word for it, though: we recommend you read the original review before you splash out, and, even better, ask the person from whom you're buying if it meets your particular needs. Best of all would be a try-out, if you can find a friend who already has what you're thinking of buying.

WORD PROCESSING

Brunword 6128

Brunning Software ☎ 0245 252854
£16.50 tape, £25 disk ● reviewed *AA24*
40 or 80 column mode: spell checker loaded into extra memory. Suitable for expanded 128K machines. Superscript/subscript effects on-screen. Includes Datafile. Available as 'Junior Brunword' at £12.95 in slightly cut-down version.

Mini Office II

Database Software ☎ 051 357 2961
£14.95 tape, £19.95 disk ● *AA6*



If you don't need full specification *Mini Office II* is the one to buy. Remarkably cheap for word-processor, database and spreadsheet, plus comms software and more. Packaging and documentation good, and programs work in a menu environment.

Pendown

Logotron ☎ 0223 323656
£19.95 disk only ● *AA18*
A complete tutorial in the theory and practice of word processing – it's great fun, too. Open system, owing much to expensive DTP packages.

Protext

Arnor ☎ 0733 68909
£19.95 tape, £26.95 disk, £39.95 ROM ● AA3
Lightning fast on all tasks involving screen. True merging from separate files and disks to the cursor position is easy, and *Protext* supports standard CPC RSX's like DISC, TAPE, CAT etc. ROM version is excellent. Bad points: maximum file space limited to machine memory – about 22K on disk, 38K for the ROM version. As used by *AA*, if that's any recommendation (probably not, actually!).

Pyraword

Discovery ☎ 0742 753423
£14.95 tape, £17.95 disk ● *AA18*
Similar in use to Discovery's *Pyradev*. It loads a profile of inks, printer codes and character set. Word counting, changing disk drives etc – 'housekeeping' tasks – are handily located. Uses extra memory of 128K machines for spooling printed documents and storing text. True file merging is impossible, and control keys are odd. Margins cannot be set further apart than 80 columns, although placing a printer control character at the right hand side allows wider documents to be printed.



Tasword

Tasman Software ● 0532 4388301
464, 464D, 6128 ● £19.95 tape/£24.95 disk ● *AA1*
464 is the tape based version (the same as *Amsword*). 464D has enhancements for a disk drive. 6128 makes full use of a 6128's extra memory. The latter pair include mailmerge facility. Easy to get to know: comprehensive help screens. Screen operations are slow, andtext is reformatted a word at a time.

Wordstar

Micropro/Cumana ☎ 0483 571666 £49.95 disk only (CPM) ● *AA1*
Files can be as big as the space available. A professional program, with huge manual and a layout like mission control. If you want a function, it is in there... somewhere. Not fast.

Manufacturers' recommended retail prices are listed as guidelines, but heavy discounts are offered by retailers.

PRINTERS

Amstrad DMP/2160

Amstrad ☎ 0277 230222
£159.95 ● *AA6*
Load through front: printer must be above paper; but loading continuous stationery is easy. Poor NLQ mode. £5 for ribbons. Low priced, rather than a bargain.

Amstrad DMP3160

Amstrad
£228.85 ● *AA29*
Similar to but faster than DMP2160. Accepts all IBM and Epson printing codes. NLQ is front loading system. Good buy.

Amstrad DMP4000

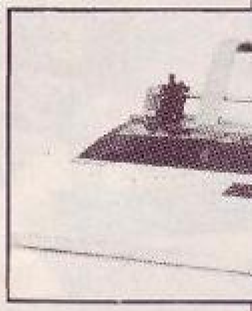
☎ 0277 230222
£401.35 ● *AA20*
A real text cruncher. Wide carriage, and really flies across the paper, up to about 200 cps (in NLQ about 50 cps). Fonts available: standard 9 pin Pica, Elite, condensed etc. – but they are different, rather than just adjusted spacing for the same characters.

Amstrad LQ3500

☎ 0277 230222
£401.35 rrp ● AA31
Cheapest 24-pin printer. Paper loaded from the rear – more time consuming. 30 cps in letter quality mode, and 62 cps in draft. Print quality excellent: plenty of different type styles built in. Not ultra fast.

Citizen 120D

Citizen ☎ 0800 282692
£159 ● *AA43*



Dimensions: 3.7 kgs, and 370mm x 90mm x 238mm. Draft quality is 'dott,' and poor, but NLQ is sharp and simple. A quiet beast, with cable to the computer connected on the side. Manual includes a complete written breakdown of all the printer control commands, and their effects.

Epson LX800

Epson ☎ 01 902 8892
£320.85 ● AA29
Very fast for 9 pin. Control panel for style selection, and Epson compatible. Reverse winding sheets requires care, though.

Epson EX800

☎ 01 902 8892
£458.85 ● *AA29*
Upgradable in 101 ways – cut sheet feeds, serial ports, longer life ribbons. Quiet, with respectable printing speed. Sans Serif/Roman NLQ fonts incorporated. Control panel to select fonts – just the same font with different spacings.

Epson LQ500

Epson ● £803 rrp ● *AA29*
Features galore and price to match. Handles both Sans Serif and Roman styles of NLQ, for instance. Colour-

printing upgrade kit available. 24 pin printer, offering excellent quality printing. Control panel to select from many available fonts (ie. the same font at different widths).

Mannesmann Tally MT81

Mannesmann Tally ☎ 0734 788711 ● £149 ● *AA43*

Dimensions: 70mm X 100mm X 265mm; weight, 4.5 kgs. Draft quality is 'dott,' and poor, but NLQ is sharp and simple. Prints Epson and IBM graphics. Draft mode print quality is good: square printhead pins put ink onto greater areas. The printed output is more ornate than the Citizen. Manual is superb, but falls down in failing to explain control codes: for that you have to buy the applications manual. Certainly a very good buy.

Panasonic KXP3131U

Panasonic ☎ 0753 73181 ● £335.25 (discont.) ● *AA29*

Daisywheel therefore superb quality – but can't print bit graphics (no trendy screen dumps), and if you want different fonts, you have to plug in a different Diablo-compatible one. Not quiet.

Panasonic KXP1081

Panasonic ● £245 rrp ● AA29

Similar to DMP2000/2160: chunky, 9 pins, 10 inch carriage and compatible with Epson codes. Thorough A4 manual, good NLQ mode – better than DMP – and condensed, draft and NLQ modes.

Star LC10

Star ☎ 01 840 1800 ● £263.35/£297.85 rrp ● AA32

First price is for standard dot matrix printer. Fonts selected by button, rather than typing in fiddly control code. Second price is for relatively inexpensive colour model. Uses multi-colour ribbon to produce different mixes. Plastic paper feeder on both models.



INTEGRATED PACKAGES

Info-Script

Brunning ☎ 0245 252854

£46 disk only ● 128K/256K only ● *AA35*

Billed as the 'complete database with word-processor and spelling checker', it's best with 256K. Well set up, easy to use and allows for changes in layout and content. Manual could be clearer.

Protext Filer/Office

Arnor ☎ 0733 68909

£24.95/£34.95 disk only ● *AA34*

Database that works comfortably with *Protext*, has powerful sorting options and comprehensive invoice printer. Can be slow, but good value.

Arc Education Master Pack

Arc Education ☎ 0472 812226

£48 disk ● *AA32*

A massive pack of 70 programs: Junior; Primary; a parent/child adventure; DR Logo and word games. Each set available at £9 tape and £12 disk. Well presented with good graphics, reasonable musical ditties and plenty of options.

Mini Office II

Database ☎ 051 357 2961

£14.95 tape, £19.95 disk ● *AA6*

Astonishingly cheap word processor, database, spreadsheet, graphics, comms and label printer all-in-one, it's continued to sell, and sell, and sell... Not full specification, but at this price who's complaining?



EDUCATIONAL PROGRAMS

Amstrad Selection

Fernleaf Education ☎ 0474 359037

£12.50 tape, £17.50 disk ● *AA32*

For age range 7 to 12+: seven programs – *Fletcher's Castle, Market Stall, The Perfume Hunter, The Raiders, Ferry Captain, Treasure,* and *Thorn Sea.*

Kosmos

Kosmos ☎ 05255 3942 ● £xx disk ● *AA32*

Answer Back Junior Quiz, which began life on the BBC micro, is just what it sounds like: a 750 question quiz, in which you can choose to answer the question, make a choice from a number of options; or say whether something is true or false. There's also *Factfile 500,* sets of additional questions for the program: arithmetic, spelling, sport and natural history.

Kosmos' other range is a foreign language vocabulary tutor in French, Spanish, German and Italian.

LCL

LCL ☎ 0491 57345

Range of Amstrad educational software. Leave message on answerphone and they won't send you a catalogue. At least, they didn't send me one. Still, I'm sure they do really terrific stuff, whatever it is.

School Software

School Software ☎ 010353 6145399 (Ireland) ● *AA32*

Decent software, though a little too dependent on a fairly rigidly structured 'school syllabus'-type presentation. Still, that may be precisely what appeals to some users.

Wordhang

Bourne Education ☎ 0794 523301

£9.95 cassette; £14.95 ● *AA32*

Just one of Bourne's range of ten programs. Others include *Happy Letters, Numbers* and *Writing* (all Infant); *Timeman One/Two, Animal Vegetable Mineral, World-Wise* and *Map Rally* (all Junior); and the excellent *Chemistry* and *Physics Revision* (Senior).

● *See also* Pendown *in* 'Word Processing'

BUSINESS/ ACCOUNTS

Protext Office

Arnor ☎ 0733 68909

£34.95 ● CPM+, 6128 only ● *AA34*

Requires *Protext* and *Promerge* to run. Information inputted using *Protext*. Mail merge templates included, and very well implemented invoice printing feature. A genuinely useful business system.

SD Microsystems range

☎ 0462 675106

General Ledger ● £19.95 ● *AA32*
Sales Invoicer Pack ● £14.95 ● *AA26*
Small Traders Pack ● £24.95 ● *AA26*
Stock Control ● £39.95 ● CPM+, 6128 only ● *AA32*

SD Microsystems are to be congratulated for their range and quality of small business systems. Consult original reviews for in-depth explanations of what each does and how it differs from the others.

DATABASES

AtLast Plus

Rational Solutions ☎ 056681 511

£39.95 ● CPM+, 6128 only ● *AA30*

Powerful: developed into user's requirements. Data capacity restricted only by disk size, and splitting fields into smaller elements possible. Printed output impressive. Beefy processing.

Masterfile III

Campbell systems ☎ 0378 77762

£39.95 CPM+ ● *AA30*

With parent/child records – enabling tying together of records, saving space and time. Screen layouts and reports menu selected; not for faint hearts, but good results.

Random Access Database

Minerva Systems ☎ 0392 37756

£29.95 disk only ● reviewed *AA6*

40 or 80 column screen. Good mathematical and string operations . Random disk accessing gives speed and power.

● *See also* Info-Script *in* 'Integrated Packages'

SPREADSHEETS

Cracker

Newstar Software ☎ 0277 229509

£49.95 disk CPM+ ● *AA9*

Spreadsheets must be created from scratch. Documentation good, command sequences soon learned. Mathematical functions well done, with random numbers catered for. Files limited to 17K – and formulae programming not well implemented.



Mastercalc 128

Campbell Systems ☎ 0378 77762
£33 disk ● 128K machines ● *AA4*
Can show two parts of spreadsheet at once. Includes notepad and calculator. Easy to use, but the mathematical formulae can only consist of the four basic arithmetic options. Slows down as more data is entered.

Matrix

Audiogenic Software ☎ 0734 303663
£34.95 disk ● *AA18*
Uses disk to store data – so good capacity on the plus side, but poor speed on the minus side. Graphic options excellent. Onscreen prompts rare, making it hard at first. Calculating power good.

Supercalc II

Amsoft/Sorcim ☎ 0277 230222
£49.95 CPM+ ● *AA4*
First class documentation. Calculations can be determinative – performed on whether or not cell's contents match given value. Excellent help prompts and arithmetic functions.

SOUND

Amdrum

Cheetah ☎ 0222 555525
£34.95 ● *AA13*
Digital drum machine. Editor comprehensive. Not Midi compatible: to hear output you plug it into amplifier.

DHCP Midi Interface

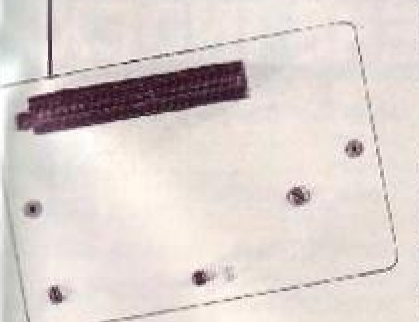
DHCP ☎ 0440 61207
£69.95 interface, £34.95+ disk s'ware ● *AA33*
DHCP produce Midi software for various Midi interfaces for CPC, which are incompatible with each other.

Micro Music Creator

First Byte Software ☎ 0225 765086
£14.95 disk, £24.95 ROM ● *AA38*
A music composer that lets you put staves and notes onscreen and play tune back. Accents can't be inserted, though. Other side is sampler to capture sounds from tape and play them through CPC. Excellent.

Midi Interface

Silicon Systems ☎ 061 848 8959
£59.95 interface, £59.95 software ● *AA26*
Useless alone, but software you can use with it – DX7, FB01, MT32, D50 and CZ101 – is diverse. Software prices vary, and lack presentation of EMR sequencer. High performance.



Miditrack Performer

EMR ☎ 0702 335747
£92.50 cass/disk ● *AA13*
Midi interface plus sequencing software to drive Midi equipped instruments. Records each instrument then plays them all at once. Onscreen layout similar to multi-track recorder. Excellent.

Ram Music Machine

RAM Electronics ☎ 0252 850085
£49.95 disk, £59.95 disk ● *AA17*
All in one music package: Midi interface, sound sampler and music editor. Sampler can handle one sample of just over a second. Midi controller software and music editor comprehensive. No through port, though, so 464 users must use tape version. And you can't edit live played Midi compositions.



Sound Blaster

Siren Software ☎ 061 848 8959
£29.99 ● *AA23*
Amplifier and pair of loudspeakers that plug into CPC for maximum 2 watts sound effects.

Speech Synthesizer

DK/RAM Electronics ☎ 0252 850085
£35, £40 ROM
Add-on producing speech by RSX's: loudspeakers supplied. Cannot include speech in program for someone else's CPC, though. Even so, excellent speech quality and value.

VISION

Advanced Art Studio

EEC ☎ 0753 888866
£24.95 disk ● *AA21*
Recently revitalised, this is *the* user-friendly, best and most powerful art package: works in all three modes. Can cycle through inks, and cut and paste different areas, transformations and reflections. Fill routines in coloured patterns. Available as a standard version for £15.95.



AMX Art

Advanced Memory Systems ☎ 0925 413501
£69.95 disk only (includes mouse) ● *AA7*
User friendly, if little unsophisticated compared to *Advanced Art Studio*, but mouse helps greatly. Colour, spraycans, textures, circles and host of other features.

AMX 3D Zicon

Advanced Memory Systems
£39.95 disk only ● *AA24*
Best with mouse, produces wire frame constructions: design in 3D and view from all angles. Slow when calculating heavy maths. Note supplies are scarce, and AMS don't plan more.

Cherry Paint

Siren Software ☎ 061 228 1831
£9.99 disk only ● *AA20*
WIMP controlled – ie mouse moves pointer to various icons to pull-down menus. B/W mode 2 only, but fun. Curves are difficult, but a bargain.

CRL Image System

CRL ☎ 01 533 2918
£14.95 disk/tape ● *AA12*
Boasts range of picture manipulations and distortions, but lacks art options. Best on finished pictures – like a mini Quantel box.

DART Scanner

Dart Electronics ☎ 0502 513707
£79.95 ● *AA22*
Attach reading device to your DMP2000, 3000 or 3160. Feed in picture to printer: device reads in picture as B/W image. Quality onscreen isn't amazing, but it works and it's fun.

Electric Studio Light Pen

Electric Studio ☎ 0462 420222
£19.95 tape, £29.95 disk ● *AA1*
Excellent drawing software, including rubber-banding shapes and lines, filling areas, spray-can etc. Accepts software written for it.



The Informer

Treasure Island Software ☎ 0492 593549
£29 disk only ● AA33
For creating animated displays, suitable for classroom and shop window: takes text, graphics and animated displays and produces slide show. Works best but not only with *Parrotry Plus* (see below).

Parrotry Plus

Treasure Island Software ☎ 0492 593549 ●
£19.95 disk only ● *AA30*
Rather than lots of effects used anywhere and at any time, *Parrotry Plus* 'remembers' every alteration and plays through the list to create animation. Note: can't dump pictures to printer without external program.

Vidi Digitizer

Rombo Productions ☎ 0506 39046
£89.95 ● *AA15*
Grabs picture from video recorder or camera and puts it on CPC screen, allowing you to alter it with an package. Easy to use. Software on tape, disk or ROM includes superb printer dump routine. ●

● Corrections, additions or ideas for sections you think should be here are very welcome. Drop a line to: *AA Buyers, Amstrad Action*, 4 Queen St, Bath BA1 1EJ

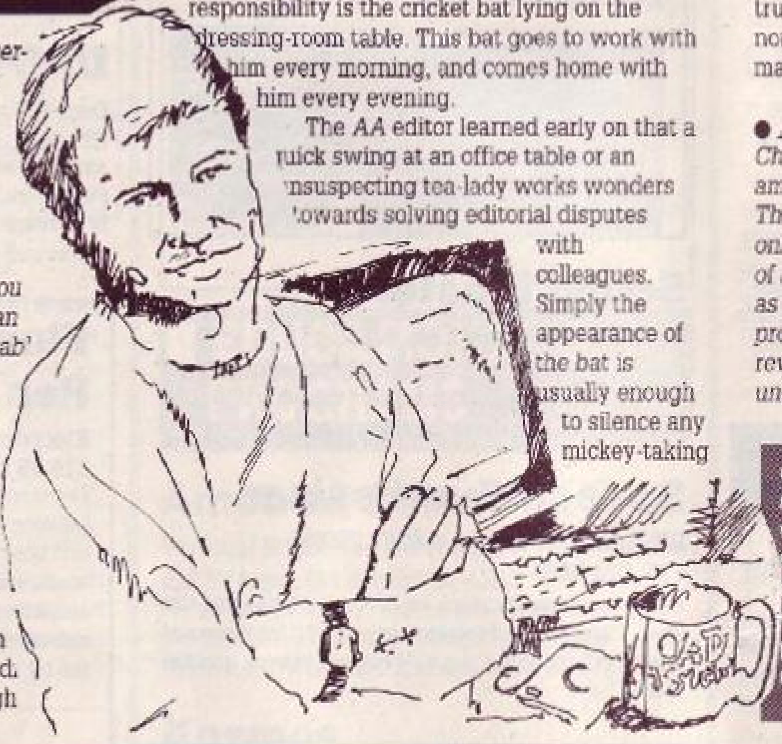
Don't miss the next *AMSTRAD ACTION*-packed issue – out on *Thursday June 15th!*

AAfterthought

The Ed's off on holiday! Whew, the rest of us can sit back and take a well-earned rest...

6. The AA editor

We've already had a large bout of over-self-indulgence this month with the Football Special nonsense, so we might as well go for broke and do this as well (the publisher hates it when we talk about ourselves all the time like this, but what can do apart from sack us? – Er, don't put that bit in, it'll give him ideas, and you know what he's like when he's had an idea. Unbearable, absolutely unbearab'



Lighting in the *AA* editor's home is subdued. Not for any aesthetic reason, it's just the result of Pat McDonald visiting at Christmas anc trying to rewire the toaster to play 'Jingle Bells.'

The *AA* editor likes to relax afte work, and nothing in the stately home would indicate his job, or even that he has one. The CPC is heavily d. guised (he threw the last one through the window when he couldn't finish *Driller*).

The only visible sign of his position of responsibility is the cricket bat lying on the dressing-room table. This bat goes to work with him every morning, and comes home with him every evening.

The *AA* editor learned early on that a quick swing at an office table or an unsuspecting tea-lady works wonders towards solving editorial disputes with colleagues. Simply the appearance of the bat is usually enough to silence any mickey-taking of his occasional minor errors.

The *AA* editor can never forgive himself for trusting that issue-number generator he wrote, nor for buying that calendar from Joe down the market.

● *And on that note the first series of the Character Set comes to a close. It generated an amazing number of entries, incidentally. Thanks to all those who wrote in, but we've only been able to use a very few of them. Most of them were very funny indeed, but there was, as you'd expect, a great deal of overlap: lots of programmers, games players and games reviewers (quite a few eds too, many of them unuseable for one reason or another!).*

● Aha! It was Adam Peters who penned last month's *'Character Set'* – you know, the chap we did a 'Day in the Life' on last December. He wrote this month's effort, too, earning him another £10 (If you think you're getting the full whack just for taking the mick out of the hard-pressed ed's inability to get his issue numbers right you can think again, mate!).

So you'd try to nick muh *AA*, would yuh?



To the newsagent: Amstrad Action is distributed by COMAG

Dear newsagent,
Please reserve me a copy of the July *Amstrad Action*, due out on Thursday 15 June

Name:

Address:

Telephone number:

If you're under 16, please get your parent or guardian to sign here:

We're putting together this last page of an *AA* very largely given over to football after hearing of the tragic events at Hillsborough, in which more than 90 football fans died at the start of the Liverpool v. Nottingham Forest FA Cup Semi-final.

All of us on *AA* send condolences to the relatives and friends of the dead and injured, and to all the people of Liverpool.

ADVERTISERS INDEX

Excellent reasons for subscribing to AA *Now!!*

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- Subscribe to Amstrad Action for £16.50 and you will receive 12 issues plus £20 worth of vouchers

See page 74 for details of our Voucher scheme.

Order Code AA396



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Just £3.99

The amazing AA T-shirt is here! The sparky red and blue AA logo is printed on a white cotton T-shirt which you can buy for £3.99 in either medium or extra large sizes. Get this and you'll have AA even nearer your heart than ever before!

Order Code
A361 (medium)
A362 (extra large)

HIGHLIGHTER PENS

Three for £1.50

For bringing out those key phrases, there's nothing like these AA-embossed pens in red, yellow and green.

Order Code AA266

AA DUST COVERS

2-piece set only £6.95

A set of dust covers provides a neat solution to dust, tea and other potential computer disasters.

These specially-commissioned Amstrad Action covers are made from high-quality, water (and coffee) proof PVC. They're coloured a gentle beige with smart blue trimming and matching AA logo.

You can order a 2-piece set tailor-made for your CPC system – just choose the correct order code from the list below.

Order Codes

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464 colour -	A209	6128 mono -	A212
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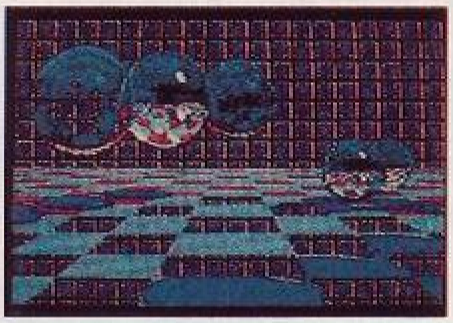
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THE ADVANCED OCP ART STUDIO ● From EEC

RRP £24.95 AA Price £19.95

For CPC6128 users (or 464 users with disc drive and 64 rampak)





The ultimate in computer art and design for your CPC — no budding artist should be without. Operates from mouse, keyboard or joystick control. Includes 16 drawing pens, 8 random spray cans and 15 user-definable brushes.

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The best joystick around for smooth, accurate, arcade quality and comfortable playing action.

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Enter your teams and set their skills, then manage them through the season.

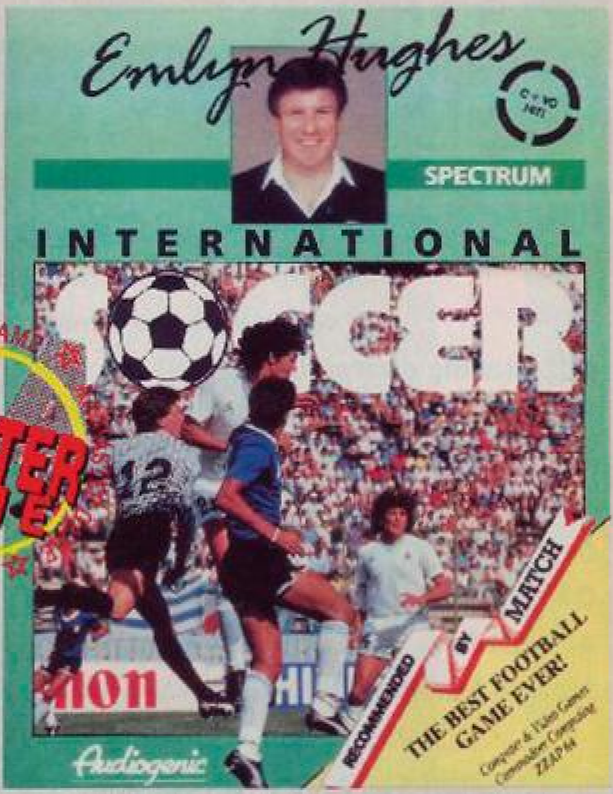




" Your ain't played Footie on your CPC till you've mastered Emlyn!"
AA June 89

AA CUP WINNER RATING 93%





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● From Database Software

£12.95 tape £17.95 disk
(RRP £14.95/£19.95)

Database's combined word processor, database, spread-sheet, label printer, communications and graphics package and offers the best value for money in any eight-bit integrated package.

Suitable for any CPC (it doesn't run under CP/M), AA called Mini Office 'good enough to fulfil the entire software needs of many a small business!'. That is borne out by the sales figures - more than 400,000 users across the country.

The figures testify to the features. You can build a verstaile card index, produce pie charts, access Prestel and other comms networks and run off personalised letters. Altogether, you may never need any other program once you've got Mini Office II. Time to get serious?

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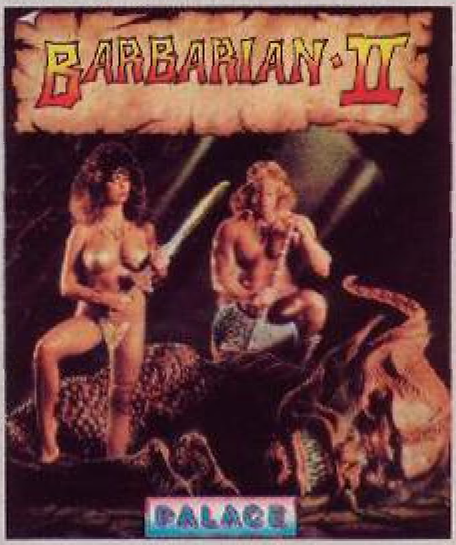
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● From Palace Software

The Dungeon of Drax

It is decided that there is only one way to stop Drax from wrecking the Jewelled Kingdom: he must be destroyed!. The Barbarian and Mariana — herself an accomplished swords-woman, are the only two warriors skilled enough to survive the perilous journey to Drax's lair. They must stop him before it's too late!!
Choose to play either Barbarian or Mariana and fight your way through three levels:- the Wastelands, the Caverns and the Dungeons before arriving at the fourth level, the Inner Sanctum of Drax!!
Each level has six different types of monster from Saurian beasts to Giant Grubbs. Collect four magical objects from each level to reach your quest..
Start the game with five lives and fight your way to his sanctum for your final conquest.

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If you're one of the thousands of readers who've joined *Amstrad Action* only recently, you'll want to catch up on some of the good things you've missed. Here's how to do it. We have limited numbers of the back issues listed below, which we're selling at cover price with post and packing free.

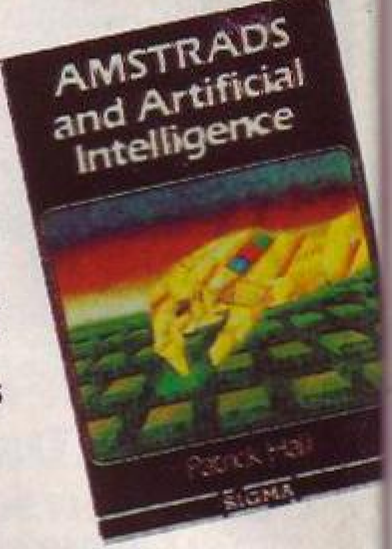
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by Patrick Hall

Just £1.95 (RRP £8.95)

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ATLAST PLUS

6128 CP/M database now £29.95 (RRP £39.95)

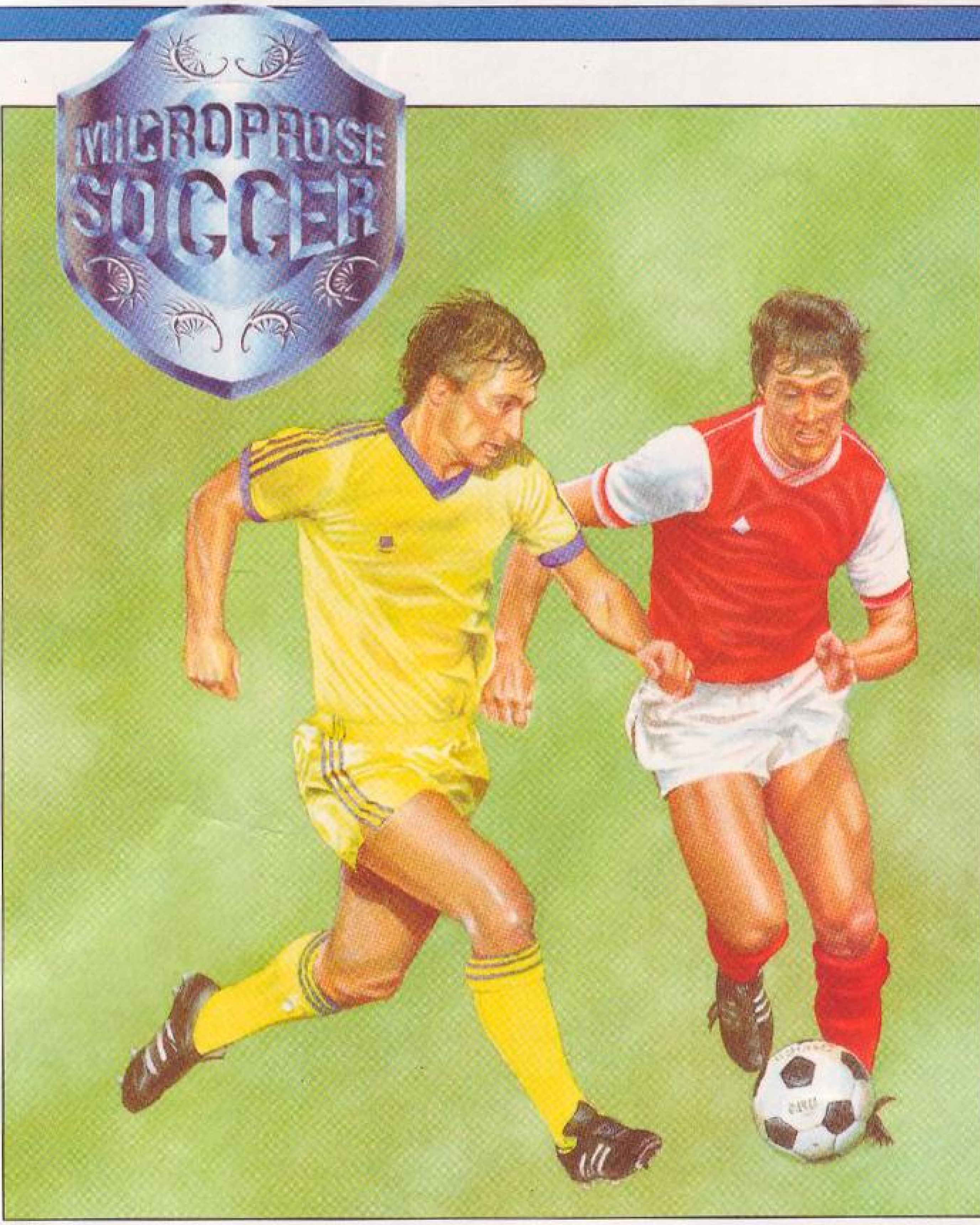
"Superb value for money and hard to pick holes in" we called the first version of *AtLast*. Now, with the release of*AtLast Plus* by Rational Solutions, you have the chance of buying one of the best (and probably *the* best for the 6128) databases for £29 - £10 less than the full retail price!

AtLast Plus handles up to 32,000 records, ten files per database, 20 fields per record, 99 elements per field and up to 79 characters per element. User-definable report and screen layouts, full on-screen control of data entry, impressive indexing/sorting facilities and automatic data re-organisation are all included in this latest version.

The package includes disk and full 120 page manual - altogether one of the most suitable programs for organising club-type membership lists, and unbeatable value for money - only through *Amstrad Action*.

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Challenge the computer or a friend, competing in the World Cup, International Challenge or the indoor league.

An overhead perspective of the pitch makes it easy to play good graphics and sound effects make every match seem real.

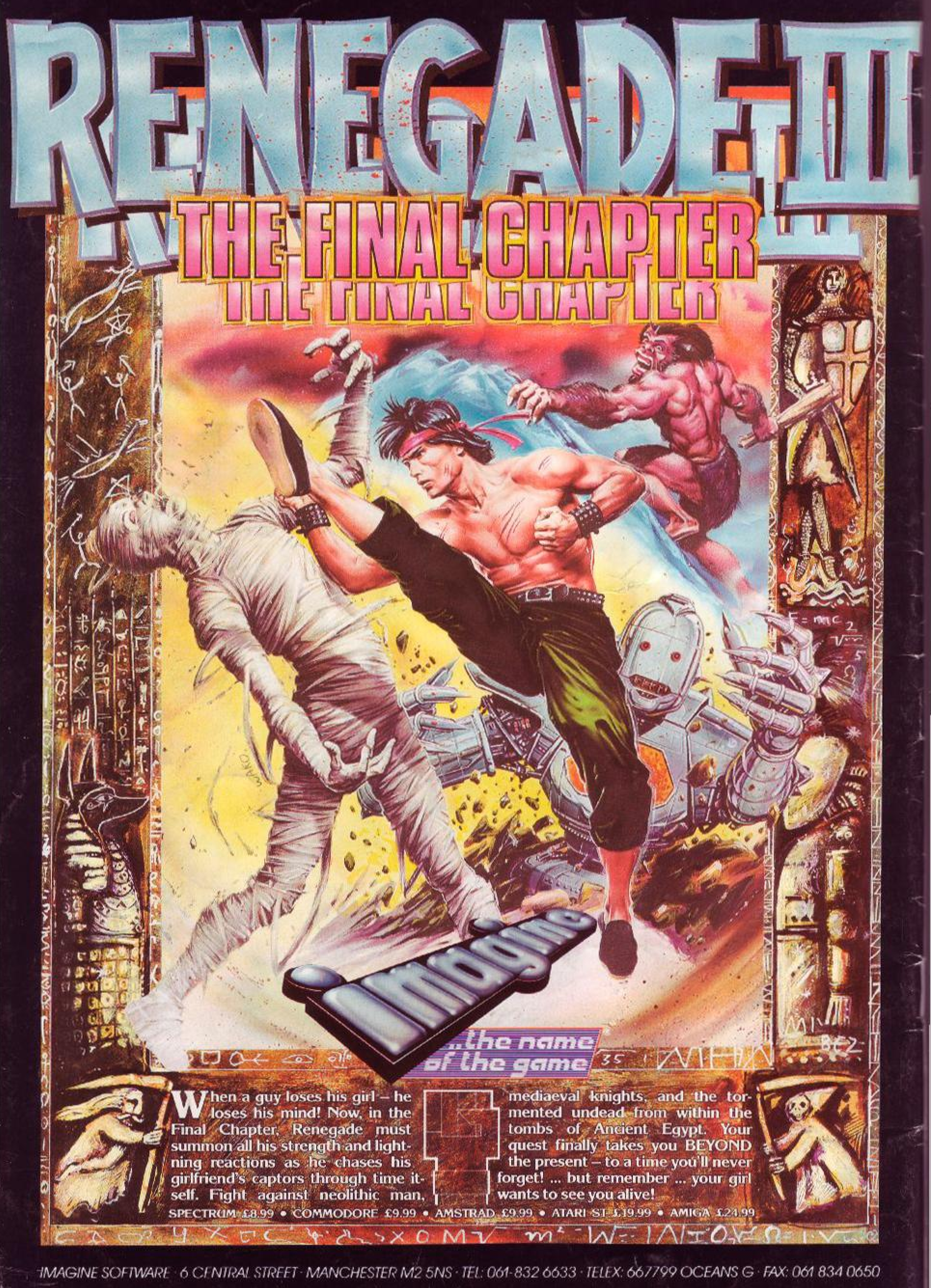
Fully animated players can perform a whole variety of movements, including overhead and banana kicks. There are 29 different teams and a unique action-replay facility.

What's the score with MicroProse Soccer? It's a winner.

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